

minnesota studies in  
vocational rehabilitation: xxii

*Manual for the  
Minnesota Satisfaction  
Questionnaire*

David J. Weiss, Rene V. Dawis  
George W. England, and Lloyd H. Lofquist

Supplies of the initial printing of the Manual for the Minnesota Satisfaction Questionnaire have been exhausted. A new manual is in preparation. Rather than asking users to pay the exorbitant costs of a limited re-printing of the current manual, we will supply photocopies of this manual until its successor becomes available.

*Minnesota Studies in Vocational Rehabilitation are supported, in part, by Research Grant RD-1613-G from the Vocational Rehabilitation Administration, Department of Health, Education, and Welfare, Washington, D.C. 20201.*

© Copyright 1967 by the  
Work Adjustment Project  
Industrial Relations Center  
University of Minnesota

The Vocational Rehabilitation Administration reserves a royalty-free, non-exclusive, and irrevocable license to reproduce, publish, or otherwise use, and authorize others to use, all copyrightable or copyrighted material resulting from this grant-supported research.

All computations reported in this monograph were performed at the University Computer Center, University of Minnesota.

# The Minnesota Studies in Vocational Rehabilitation

## Purpose and Methodology

The Minnesota Studies in Vocational Rehabilitation, better known as the Work Adjustment Project, are a continuing series of research studies being conducted on the general problem of adjustment to work. Specifically, they focus on the work adjustment problems relevant to vocational rehabilitation services. These studies, begun in 1957, have two objectives: the development of diagnostic tools for assessing the work adjustment "potential" of applicants for vocational rehabilitation, and the evaluation of work adjustment outcomes. These primary goals are embodied in a conceptual framework for research, entitled the *Theory of Work Adjustment*. This theory uses the correspondence (or lack of it) between the work personality and the work environment as the principal reason or explanation for observed work adjustment outcomes (satisfactoriness, satisfaction, and tenure). The theory states further that vocational abilities and vocational needs are the significant aspects of the work personality, while ability requirements and reinforcer systems are the significant aspects of the work environment. Work adjustment is predicted by matching an individual's work personality with work environments. In other words, work adjustment depends on how well an individual's abilities correspond to the ability requirements in work, and how well his needs correspond to the reinforcers available in the work environment.

Work Adjustment Project research has been directed at testing the usefulness of the *Theory of Work Adjustment* in working with rehabilitation clients. For example, it has been shown that vocational needs are measurable and can be measured separately from measured satisfaction. In addition, it has been demonstrated that satisfaction in a variety of work environments can be predicted from the correspondence of measured vocational needs and either estimated or inferred job reinforcer systems. It has also been demonstrated that satisfaction and satisfactoriness are measurable indicators of work adjustment, and that they can be measured independently of each other.

The Work Adjustment Project is working toward further improvement of measures of vocational abilities and vocational needs, with the aim of providing vocational rehabilitation counselors with better tools for evaluating the work personalities of vocational rehabilitation applicants. More efficient and economical methods of describing ability requirements and reinforcer systems in work environments are being developed. In addition, work continues on testing, developing, and modifying the *Theory of Work Adjustment* and its implications for a psychology of disability, which treats disability in work adjustment terms, rather than solely in medical diagnostic terms.

The present monograph describes the Minnesota Satisfaction Questionnaire (MSQ) as a measure of one of the primary indicators of work adjustment. It is intended to serve as a manual for use of the MSQ. It includes development

and normative data on two forms of the MSQ, a twenty-one scale long form, and a three-scale short form.

## Findings

The research resulted in the development of a questionnaire (in two forms, long and short) that measures satisfaction with several specific aspects of work and work environments. This questionnaire (the MSQ) makes it feasible to obtain a more individualized picture of worker satisfaction than was possible using gross or more general measures of satisfaction with the job as a whole. This individualized measurement is useful because two individuals may express the same amount of general satisfaction with their work but for entirely different reasons. For example, one individual may be satisfied with his work because it allows him to satisfy his needs for independence and security. Another person who is equally satisfied with his work is able to satisfy his needs for creativity, ability utilization and achievement. Research has shown that there are individual differences in the vocational needs of people. Research has also shown that there are individual differences in jobs with respect to the reinforcers available for the satisfaction of needs. It is, therefore, likely that people find different satisfactions in work, and to understand these differences, it is useful to measure satisfaction with the specific aspects of work and work environments. Such understanding should contribute to the effectiveness of vocational planning with individual clients.

As indicated in this monograph, the Minnesota Satisfaction Questionnaire is an instrument that measures satisfaction with several different aspects of the work environment. It takes little time to administer (15-20 minutes for the long form, 5 minutes for the short form); it is easy to read (fifth grade reading level); meets the accepted standards for reliability; and shows evidence of validity. It appears to be ready for use in evaluating vocational rehabilitation outcomes.

## Implications for Vocational Rehabilitation Practice

In addition to statistical evaluation of vocational rehabilitation counseling (e.g., number of cases closed, number placed in employment), rehabilitation counselors have been interested in assessing the quality of counseling outcomes. The availability of the MSQ makes it possible to measure one qualitative aspect of vocational rehabilitation. The characteristics of the instrument make this relatively easy to accomplish.

This measure of job satisfaction provides one concrete quality outcome measure against which the effectiveness of counselors and/or specific counseling techniques can be evaluated. It also enables the individual counselor to gauge his effectiveness in assisting clients to find jobs which take account of their individual needs. In addition, data from systematic follow-up of client satisfaction, and the normative data in this manual, should help counselors to learn a great deal about the different reinforcers present in the large variety of jobs that exist. This additional knowledge should facilitate the development

of vocational plans that will enhance both client satisfaction and client tenure on the job.

## Recommendations for Use

Unless the agency or counselor finds the 15-20 minutes required by the long form to be absolutely impractical, it is strongly recommended that the long form of the MSQ be used. The reason for this is that the long form provides much more information for the very short additional time that it requires.

When the MSQ is used to evaluate counseling, to evaluate different techniques, or to generate information about the reinforcers in jobs, large and representative samples of clients should be used.

When an individual's satisfaction scores are to be interpreted, care should be taken to use the most appropriate norm group to provide the point of reference for comparison purposes.

The most meaningful scores to use in interpreting the MSQ are the percentile scores for each scale obtained from the most appropriate norm group for the individual. Ordinarily, a percentile score of 75 or higher would be taken to represent a high degree of satisfaction; a percentile score of 25 or lower would indicate a low level of satisfaction; and, scores in the middle range of percentiles indicate average satisfaction.

The MSQ may be administered by mail, if proper controls are used, or in an interview setting.

Authorization to use the MSQ can be obtained by writing to the Work Adjustment Project.

# Contents

	Page
Section I. Description and Use .....	1
Description of the Minnesota Satisfaction Questionnaire .....	1
The long-form MSQ .....	1
The short-form MSQ .....	2
Use of the MSQ .....	2
Administration .....	2
Scoring .....	3
Interpretation of MSQ scores .....	4
Norms for the long-form MSQ .....	5
Norms for the short-form MSQ .....	6
An illustration of the scoring and interpretation of the MSQ .....	7
Copyright .....	11
Section II. Technical Data .....	12
Development of the questionnaires .....	12
The long-form MSQ .....	13
Reliability .....	13
Internal Consistency .....	13
Stability .....	14
Validity .....	16
Construct validity .....	16
Group differences (concurrent validity) .....	18
Factor structure (content validity) .....	22
The short-form MSQ .....	23
Reliability .....	23
Internal consistency .....	23
Stability .....	24
Validity .....	24
Occupational group differences (concurrent validity) .....	24
Relationship with satisfactoriness (construct validity) .....	25
Scale intercorrelations .....	26
Current research .....	27
Section III. The long-form MSQ .....	29
A. Copy of the long-form MSQ .....	31
B. Normative Data .....	37
Professional, Technical, Managerial .....	
Accountants .....	38

	Page
Buyers .....	40
Engineers .....	42
Field representatives .....	44
Managers .....	46
Nurses, practical .....	48
Nurses, registered (full-time) .....	50
Nurses, registered (part-time) .....	52
Nurses, supervisors .....	54
Social workers .....	56
Teachers .....	58
<b>Clerical and Sales</b>	
Bookkeepers .....	60
Business machine operators .....	62
Office clerks .....	64
Secretaries .....	66
Stenographers and typists .....	68
<b>Service</b>	
Food service workers (hospital) .....	70
Housekeeping aides .....	72
Nursing assistants .....	74
<b>Bench Work</b>	
Assemblers (toy) .....	76
<b>Miscellaneous</b>	
Laborers .....	78
Packers .....	80
Small equipment operators .....	82
Truck drivers .....	84
Warehousemen .....	86
Employed disabled .....	88
Employed non-disabled .....	90
C. MSQ Scale intercorrelations .....	93
D. MSQ factor analyses .....	101
<b>Section IV. The short-form MSQ</b> .....	109
A. Copy of the short-form MSQ .....	110
B. Normative data .....	112
Details of data collection and questionnaire administration for Assemblers, Clerks, Engineers, Janitors and Maintenance- men, Machinists and Salesmen .....	112
Professional, Technical, Managerial	
Engineers .....	113



<b>Clerical and Sales</b>	
<b>Clerks, general office</b> .....	114
<b>Salesmen</b> .....	115
<b>Service</b>	
<b>Janitors and maintenancemen</b> .....	116
<b>Machine Trades</b>	
<b>Machinists</b> .....	117
<b>Bench Work</b>	
<b>Assemblers, general</b> .....	118
<b>Assemblers, electrical</b> .....	119
<b>List of Titles: Minnesota Studies in Vocational Rehabilitation series</b>	120

# Manual for the Minnesota Satisfaction Questionnaire

## Section I. Description and Use

### Description of the Minnesota Satisfaction Questionnaire

The long-form MSQ—The long-form MSQ consists of 100 items.<sup>1</sup> Each item refers to a reinforcer in the work environment. The respondent indicates how satisfied he is with the reinforcer on his present job. Five response alternatives are presented for each item: "Very Dissatisfied; Dissatisfied; Neither (dissatisfied nor satisfied); Satisfied; Very Satisfied."

Each long-form MSQ scale consists of five items. The items appear in blocks of 20, with items constituting a given scale appearing at 20-item intervals.

Following is a list of the MSQ scales. The item following the scale title is the satisfaction item which correlated highest with scale score, for a group of 1,793 employed individuals.

1. *Ability utilization.* The chance to do something that makes use of my abilities.
2. *Achievement.* The feeling of accomplishment I get from the job.
3. *Activity.* Being able to keep busy all the time.
4. *Advancement.* The chances for advancement on this job.
5. *Authority.* The chance to tell other people what to do.
6. *Company policies and practices.* The way company policies are put into practice.
7. *Compensation.* My pay and the amount of work I do.
8. *Co-workers.* The way my co-workers get along with each other.

---

<sup>1</sup> Robert E. Carlson, formerly of the Work Adjustment Project staff, assisted in the writing of items.

9. *Creativity*. The chance to try my own methods of doing the job.
10. *Independence*. The chance to work alone on the job.
11. *Moral values*. Being able to do things that don't go against my conscience.
12. *Recognition*. The praise I get for doing a good job.
13. *Responsibility*. The freedom to use my own judgment.
14. *Security*. The way my job provides for steady employment.
15. *Social service*. The chance to do things for other people.
16. *Social status*. The chance to be "somebody" in the community.
17. *Supervision—human relations*. The way my boss handles his men.
18. *Supervision—technical*. The competence of my supervisor in making decisions.
19. *Variety*. The chance to do different things from time to time.
20. *Working conditions*. The working conditions.

A copy of the long-form MSQ appears in Section III on pp. 31-35.

**The short-form MSQ**—The short-form MSQ is composed of the twenty items listed above. The directions for this form are identical to those for the long-form. The short-form MSQ consists of three scales: Intrinsic Satisfaction, Extrinsic Satisfaction, and General Satisfaction.

A copy of the short-form MSQ appears in Section IV on pp. 110-111.

### **Use of the MSQ**

**Administration**—Both forms of the MSQ are self-administering. Directions for the respondent appear on the first page of the questionnaire. Item rating instructions are repeated at the top of each page.

There is no time limit for the MSQ. However, the respondent should be encouraged to answer the questions rapidly. Experience with the long-form MSQ indicates that the average employee can

complete the questionnaire in from 15 to 20 minutes. The shortest time observed in an employed group was about ten minutes; the slowest individual took about 30 minutes. In no case has administration time taken over 30 minutes. Administration time for the short-form varies from about five to ten minutes, with most individuals completing it in about five minutes.

As with all self-report questionnaires, good rapport with the respondents is necessary.

**Scoring**—Response choices for both forms of the MSQ are weighted in the following manner:

<i>Response Choice</i>	<i>Scoring Weight</i>
Very Dissatisfied (VDS) .....	1
Dissatisfied (DS) .....	2
Neither (N) .....	3
Satisfied (S) .....	4
Very Satisfied (VS) .....	5

Thus, responses are scored 1 through 5 proceeding from left to right in the answer spaces. Scale scores are determined by summing the weights for the responses chosen for the items in each scale.

Twenty scales of the long-form MSQ consist of the following items:

<i>Scale</i>	<i>Items</i>				
Ability utilization .....	7	27	47	67	87
Achievement .....	19	39	59	79	99
Activity .....	20	40	60	80	100
Advancement .....	14	34	54	74	94
Authority .....	6	26	46	66	86
Company policies and practices .....	9	29	49	69	89
Compensation .....	12	32	52	72	92
Co-workers .....	16	36	56	76	96
Creativity .....	2	22	42	62	82
Independence .....	4	24	44	64	84
Moral values .....	3	23	43	63	83
Recognition .....	18	38	58	78	98
Responsibility .....	17	37	57	77	97
Security .....	11	31	51	71	91
Social service .....	1	21	41	61	81
Social status .....	8	28	48	68	88
Supervision—human relations .....	10	30	50	70	90
Supervision—technical .....	15	35	55	75	95
Variety .....	5	25	45	65	85
Working conditions .....	13	33	53	73	93

Scoring of the MSQ can also include a General Satisfaction scale. This scale uses 20 items (one from each of the twenty scales), yielding a score ranging from 20 to 100.

Items scored on the General Satisfaction scale are as follows: 24, 25, 28, 30, 35, 43, 51, 61, 66, 67, 69, 72, 74, 77, 82, 93, 96, 98, 99, 100.

The three scales of the short-form MSQ consist of the following items:

Scale	Items																			
Intrinsic .....	1	2	3	4	7	8	9	10	11	15	16	20								
Extrinsic .....	5	6	12	13	14	19														
General satisfaction .....	1	2	3	4	5	6	7	8	9	10	11	12	13							
	14	15	16	17	18	19	20													

**Interpretation of MSQ scores**—Raw scores for each MSQ scale can be converted to percentile scores, using the appropriate tables of normative data given in Sections III-B and IV-B. An individual's percentile score on any scale gives his relative position in a norm group. It indicates the percentage of people in the norm group with scores equal to or lower than the individual's raw score. The same raw score on a scale may convert to different percentile scores for different norm groups.

The most meaningful scores to use in interpreting the MSQ are the percentile scores for each scale obtained from the most appropriate norm group for the individual.

The appropriate norm group for an individual is the one that corresponds exactly to his job. Since, at the present time, the number of norm groups is limited, it may be necessary to select a norm group that is very similar to the individual's job. In selecting a similar norm group, care must be exercised to determine similarity on the basis of a large number of characteristics such as: tools used, materials used, tasks performed, type of supervision, rate of pay and physical working conditions. Determining similarity on a very superficial basis may lead to misinterpretation of the MSQ scores.

In the event that an individual is in an occupation for which no appropriate norm group has yet been developed, the MSQ raw scores can be converted to percentile scores using the Employed Disabled or Employed Non-disabled norms (see pages 88-91), depending on the individual's status with regard to disability. It is also possible to interpret MSQ raw scores for all scales by ranking

them. These rankings indicate areas of relatively greater, or lesser, satisfaction.

These ways of interpreting MSQ scores can be used in follow-up studies of clients, and in generating occupational information. In follow-up studies of the effectiveness of techniques or counselors, one might use MSQ scores as outcome measures. Average levels of satisfaction, by scale or for all scales, could be established for groups of clients counseled by specific counselors or using specific techniques. When percentile scores are used, the average percentile score for the follow-up group should be 50 or better for the group to be considered satisfied.

When percentile scores are used in the follow-up of an individual client, a percentile score of 75 or higher is ordinarily taken to represent a high degree of satisfaction; a percentile score of 25 or lower would represent a low level of satisfaction; and, scores in the middle range of percentiles (26 to 74) would indicate average satisfaction.

The MSQ can be used to generate additional information about jobs for use in the counseling process. The accumulation of norm group data for a large number of additional jobs will make available information from which reinforcer systems in various kinds of work can be inferred. Information about reinforcer systems is necessary if counselors are to assist clients in finding work likely to be appropriate for their individual needs, that is satisfying to them. This use of MSQ data as the basis for indicating occupational reinforcers is based on the assumption that if many individually different people are uniformly satisfied or dissatisfied with specific aspects of the same occupation, effective reinforcers for these aspects are available or lacking in the work environment.

**Norms for the long-form MSQ**—Normative data for the 21 MSQ scales appear in Section III-B. These data include the following items of information:

1. Job title and job description for the norm group, based on the 1965 revision of the Dictionary of Occupational Titles.<sup>2</sup>
2. Source of the data.
3. Demographic characteristics of the norm group, including such variables as sex, age, education and tenure information.

<sup>2</sup>U.S. Department of Labor. *Dictionary of Occupational Titles* (Third Edition). Washington, D.C.: U.S. Government Printing Office, 1965.

4. Mean, standard deviation, Hoyt reliability coefficient and standard error of measurement for each of the 21 scales.
5. Percentile equivalents of raw scores (in five point intervals) for each of the 21 scales.

These data are available on the following groups:

	Pages
<b>Professional, Technical, Managerial</b>	
Accountants .....	38-39
Buyers .....	40-41
Engineers .....	42-43
Field Representatives .....	44-45
Managers .....	46-47
Nurses, practical .....	48-49
Nurses, registered (full-time) .....	50-51
Nurses, registered (part-time) .....	52-53
Nurses, supervisors .....	54-55
Social Workers .....	56-57
Teachers .....	58-59
<b>Clerical and Sales</b>	
Bookkeepers .....	60-61
Business Machine Operators .....	62-63
Office Clerks .....	64-65
Secretaries .....	66-67
Stenographers and Typists .....	68-69
<b>Service</b>	
Food Service Workers .....	70-71
Housekeeping Aides .....	72-73
Nursing Assistants .....	74-75
<b>Bench Work</b>	
Assemblers .....	76-77
<b>Miscellaneous</b>	
Laborers .....	78-79
Packers .....	80-81
Small Equipment Operators .....	82-83
Truck Drivers .....	84-85
Warehousemen .....	86-87
Employed disabled .....	88-89
Employed non-disabled .....	90-91

Norms for the short-form MSQ—Normative data for the short-form MSQ appear in Section IV-B. These data include descriptive

characteristics of the norm groups, means, standard deviations, Hoyt reliability coefficients, standard errors of measurement and percentile equivalents of raw scores, for each of the three scales. Data are available for the following groups:

	Page
Professional, Technical, Managerial	
Engineers .....	113
Clerical and Sales	
Clerks, General Office .....	114
Salesmen .....	115
Service	
Janitors and Maintencemen .....	116
Machine Trades	
Machinists .....	117
Bench Work	
Assemblers, general .....	118
Assemblers, electrical .....	119

**An illustration of the scoring and interpretation of the MSQ—** The forms on pages 8-9 may be used in the hand-scoring and interpretation of the long-form MSQ. (A similar form can be devised for the short-form MSQ.) For our illustration the long-form MSQ was hand-scored as follows:

1. Item scores (1 to 5) were assigned for the individual's response to each item (see scoring section above).
2. Item scores were entered on the Hand-Scoring Form, beginning with item 1 in the upper lefthand box and proceeding left to right, through all 100 boxes.
3. Raw scores were determined for each scale by adding all five scores in each one of the 20 columns.<sup>3</sup> These scores were entered on the Total Raw Score line.

<sup>3</sup> If a score is missing for one of the five items in the scale, the modal score value determined from the four remaining items should be used to fill in the missing score. If scores are missing for more than one item in the scale, the scale should not be scored. In case of ties in determining modal score value, the average (rounded to the nearest whole number) should be used. The same procedures are to be followed if scores are missing in the heavily-lined boxes used to determine the General Satisfaction raw score. If scores are missing for more than 5 boxes, this scale should not be scored.



# Hand-Scoring Form for the Minnesota Satisfaction Questionnaire (Long-Form)

Name: Betsy Black

Case No. 695293

Date: 7/6/67

	Social Service	Creativity	Moral Values	Independence	Variety	Authority	Ability Utilization	Social Status	Company P & P	Supervision— Human Rel.	Security	Compensation	Working Conditions	Advancement	Supervision— Technical	Co-workers	Responsibility	Recognition	Achievement	Activity	General Satisfaction
	SSe	Cre	MV	Ind	Var	Aut	AU	SSt	CCP	SHR	Sec	Com	WC	Adv	ST	CW	Res	Rec	Ach	Act	Gen
items 1-20	3	2	4	2	1	3	1	3	4	3	3	2	4	3	4	3	3	3	4	4	
items 21-40	3	3	5	3	4	3	3	3	2	2	3	4	4	3	3	4	3	3	3	4	
items 41-60	3	3	5	3	4	3	2	3	4	3	4	3	4	2	2	4	3	3	3	4	
items 61-80	3	3	3	3	4	3	2	3	2	4	4	3	4	3	4	4	3	3	3	4	
items 81-100	3	3	4	4	3	3	3	3	4	3	4	2	3	3	4	4	3	3	1	1	
<b>Total</b>																					
<b>Raw Score</b>	15	14	21	15	16	15	11	15	16	15	18	14	19	14	17	19	15	15	14	17	58
	SSe	Cre	MV	Ind	Var	Aut	AU	SSt	CCP	SHR	Sec	Com	WC	Adv	ST	CW	Res	Rec	Ach	Act	Gen
<b>Percentile Scores</b>																					
<b>Norm Group</b>																					
<b>Bookkeepers</b>	20	22	45	10	30	20	10	20	45	20	20	40	55	35	30	35	10	35	5	25	9
<b>Nurses (full-time)</b>	4	20	60	15	20	10	5	20	45	25	25	45	35	35	35	20	5	25	4	10	2
<b>Teachers</b>	1	3	60	5	5	10	2	10	35	4	15	15	20	5	8	20	1	15	1	10	1
	SSe	Cre	MV	Ind	Var	Aut	AU	SSt	CCP	SHR	Sec	Com	WC	Adv	ST	CW	Res	Rec	Ach	Act	Gen

MINNESOTA STUDIES IN VOCATIONAL REHABILITATION

8

## Hand-Scoring Form for the Minnesota Satisfaction Questionnaire (Long-Form)

Name: Rosie Gay

Case No. 392596

Date: 7/6/67

	Social Service	Creativity	Moral Values	Independence	Variety	Authority	Ability Utilization	Social Status	Company P & P	Supervision— Human Rel.	Security	Compensation	Working Conditions	Advancement	Supervision— Technical	Co-workers	Responsibility	Recognition	Achievement	Activity	General Satisfaction
	SSe	Cre	MV	Ind	Var	Aut	AU	SSt	CCP	SHR	Sec	Com	WC	Adv	ST	CW	Res	Rec	Ach	Act	Gen
items 1-20	5	4	5	5	4	4	5	4	4	5	5	2	3	3	5	5	5	3	4	3	
items 21-40	4	3	5	5	5	3	5	3	5	5	5	2	3	3	5	5	3	3	5	3	
items 41-60	4	3	5	5	2	3	5	3	4	5	5	2	4	3	5	5	3	3	5	3	
items 61-80	5	4	5	5	3	3	5	3	4	5	5	3	5	3	5	5	5	3	5	4	
items 81-100	5	4	5	4	5	3	5	4	5	5	5	2	4	4	3	5	5	3	5	3	
<b>Total</b>																					
<b>Raw Score</b>	23	18	25	24	19	16	25	17	22	25	25	11	19	16	23	25	21	15	24	16	85

### Percentile Scores

Norm Group	SSe	Cre	MV	Ind	Var	Aut	AU	SSt	CCP	SHR	Sec	Com	WC	Adv	ST	CW	Res	Rec	Ach	Act	Gen
Bookkeepers	90	60	99	95	50	40	99	40	85	99	99	25	55	55	88	99	85	35	90	20	88
Nurses (full-time)	70	50	99	95	50	15	99	40	93	99	99	20	35	50	90	99	80	25	90	5	90
Teachers	70	10	99	90	30	20	99	30	90	99	99	5	20	20	75	99	65	15	85	8	65

MANUAL FOR THE MINNESOTA SATISFACTION QUESTIONNAIRE

4. Scores in the heavily-lined boxes (one for each column) were summed and the total entered in the General Satisfaction box on the Total Raw Score line.

5. Norm groups were selected, and the percentile scores corresponding to the raw score for each scale were determined. For example, Miss Gay's raw score of 85 for the General Satisfaction scale is converted to a percentile score of 88 in the norms for Bookkeepers. Since a raw score of 84 is at the 85th percentile and a raw score of 86 is at the 90th percentile, and since a raw score of 85 is assumed to fall midway between these percentiles, it is assigned a percentile score of 88 (rounded up from 87.5).

As illustrations, the completed Hand-Scoring Forms for two female bookkeepers, both high school graduates and employed in the same company, are shown. It will be noted that Miss Gay has a high level of General Satisfaction, while Miss Black shows a low level of General Satisfaction. When we look at individual percentile scores for scales, there are only two scales on which Miss Gay shows low level satisfaction, namely, Compensation and Activity. In contrast, Miss Black shows low level satisfaction on 11 scales: Social Service, Creativity, Independence, Authority, Ability Utilization, Social Status, Supervision—Human Relations, Security, Responsibility, Achievement and Activity. Miss Gay shows high level satisfaction on 11 scales, while Miss Black does not show high level satisfaction on any scale.

Obviously, the appropriate norm group for both these persons is Bookkeepers. However, to illustrate contrasting results with the use of different norm groups, percentile scores have been included for Nurses and Teachers for both of these individuals. As can be seen, Miss Gay maintains a high level of General Satisfaction on the Nurses norms, but drops to an average level of General Satisfaction on the Teachers norms. Looking at the 11 scales for which she shows high level satisfaction on the Bookkeepers norms, we find that she remains high on 10 of these scales for the Nurses norms, and 9 scales on the Teachers norms. The number of scales for which Miss Gay shows low level satisfaction increases from 2 on the Bookkeepers norms to 4 for Nurses and 7 for Teachers. Miss Black, whose General Satisfaction is at a very low level for Bookkeepers, Nurses and Teachers alike, shows low level satisfaction on 11 scales for Bookkeepers, 14 scales for Nurses, and 18 scales for

Teachers. Miss Black does not show high level satisfaction on any scale for any of the three norm groups.

**Copyright**—Both forms of the MSQ are copyrighted by the Industrial Relations Center, University of Minnesota. Permission to use the questionnaire can be obtained by writing to:

Vocational Psychology Research  
N620 Elliott Hall  
75 East River Road  
University of Minnesota  
Minneapolis, Minnesota 55455

Such requests should include a brief description of the proposed use, the population to be administered, the duration of the project, and the professional qualifications of the requesting individuals.

### Development of the Questionnaires

The first measures of satisfaction used in the Work Adjustment Project consisted of the Hoppock Job Satisfaction Blank<sup>4</sup> (short form), the Employee Attitude Scale<sup>5</sup> developed at the Industrial Relations Center, and 22 experimental items. The Hoppock Blank is a four-item instrument designed to measure general job satisfaction. The Employee Attitude Scale is a 54-item, Likert format questionnaire about attitudes toward working conditions, type of work, supervision, co-workers, communications, hours and pay, and general morale. The experimental items, written in the same Likert format, concerned attitudes toward supervision, co-workers, pay and promotion, and general job satisfaction. Experience with these instruments is reported in Monograph XIII of the *Minnesota Studies in Vocational Rehabilitation* series, "The measurement of employment satisfaction."<sup>6</sup>

As detailed in Monograph XIII, the total pool of 80 items was utilized to develop multi-scale satisfaction measures for different occupational groups, and for disabled and non-disabled groups separately. The resulting measures had adequate reliabilities, but were cumbersome to score (different item response weights were used for different occupational groups). Furthermore, the scales that were developed measured predominantly satisfaction with environmental or extrinsic reinforcement factors (e.g., working conditions, supervision, co-workers, company) and almost totally excluded intrinsic reinforcement factors (e.g., type of work, achievement, ability utilization).

Based on these measures, a new 20-scale Likert format questionnaire was developed. The new instrument was constructed to sample both intrinsic and extrinsic reinforcement dimensions. Instructions were simplified; item stems were shortened; and scales were limited to five items each. An attempt was made, through item wording,

---

<sup>4</sup> Hoppock, R. *Job satisfaction*. New York: Harper, 1935.

<sup>5</sup> Yoder, D., Heneman, H. G., Jr., and Cheit, E. F. *Triple Audit of Industrial Relations*. Minneapolis: University of Minnesota, Industrial Relations Center, Bulletin 11, 1951; Fox, H., Albers, W. S. and Helleweg, A. *Triple Audit: Employee Attitude Scale development and preliminary norms*. Minneapolis: University of Minnesota, Industrial Relations Center, Release 6, 1954.

<sup>6</sup> Carlson, R. E., Dawls, R. V., England, G. W., and Lofquist, L. H. The measurement of employment satisfaction. *Minnesota studies in vocational rehabilitation, XIII*, 1962.

to make scale content more homogeneous. At the same time, items were worded to maximize readability. A "Flesch count"<sup>7</sup> of the items in the final form showed an average sentence length of 8.6 words with an average of 77 one-syllable words per hundred words. This count yielded an index of 84, rating the questionnaire in the *Very Easy* (5th grade level) class.

The new instrument was named the Minnesota Satisfaction Questionnaire (MSQ). It was designed to parallel a companion measure of vocational needs, the Minnesota Importance Questionnaire (MIQ). While both instruments pertained to the same set of reinforcement dimensions, the MSQ was designed to measure *actual* satisfaction with a reinforcer and the MIQ to measure the importance of a reinforcer to the *potential* satisfaction of the individual. Development of the MSQ was first reported in Monograph XVIII of the *Minnesota Studies in Vocational Rehabilitation* series, "Construct validation studies of the MIQ."<sup>8</sup>

In addition, a short form of the MSQ was developed by choosing 20 representative items, one from each scale. The items chosen were those which correlated the highest with their respective scales.

The short form MSQ was administered to a heterogeneous group of 1,460 employed men. The resulting data were factor-analyzed. Two factors resulted, intrinsic and extrinsic satisfaction.<sup>9</sup> Items loading high on each factor were taken to constitute a scale. In addition, all 20 items were scored as one scale. The short form MSQ, therefore, can be scored on three scales: intrinsic satisfaction, extrinsic satisfaction and general satisfaction.

## The Long-Form MSQ

### Reliability

**Internal consistency**—Data on the internal consistency reliability of the MSQ as estimated by Hoyt's analysis-of-variance method are present in Section III-B. These data are summarized in Table 1.

<sup>7</sup> See Farr, J. N., Jenkins, J. J., and Paterson, D. G. Simplification of Flesch reading ease formula. *Journal of applied psychology*, 1951, 35, 333-337.

<sup>8</sup> Weiss, D. J., Dawis, R. V., England, G. W., and Lofquist, L. H. Construct validation studies of the Minnesota Importance Questionnaire. *Minnesota studies in vocational rehabilitation*, XVIII, 1964.

<sup>9</sup> Details of the factor analysis and the development of scales scores appear in Weiss, D. J., Dawis, R. V., Lofquist, L. H. and England, G. W. Instrumentation for the Theory of Work Adjustment. *Minnesota studies in vocational rehabilitation*, XXI, 1966. Pages 43-49.

**Table 1. Median and range of Hoyt reliability coefficients for 27 normative groups, by MSQ scale**

Scale	Highest	Median	Lowest
1. Ability utilization .....	.97	.91	.79
2. Achievement .....	.91	.84	.73
3. Activity .....	.92	.86	.71
4. Advancement .....	.96	.93	.87
5. Authority .....	.92	.85	.66
6. Company policies and practices .....	.93	.90	.80
7. Compensation .....	.95	.91	.82
8. Co-workers .....	.93	.85	.67
9. Creativity .....	.92	.87	.72
10. Independence .....	.91	.85	.73
11. Moral values .....	.93	.81	.62
12. Recognition .....	.96	.93	.84
13. Responsibility .....	.89	.78	.66
14. Security .....	.87	.80	.64
15. Social service .....	.95	.89	.73
16. Social status .....	.92	.79	.71
17. Supervision—human relations .....	.95	.89	.75
18. Supervision—technical .....	.94	.86	.71
19. Variety .....	.93	.86	.59
20. Working conditions .....	.97	.89	.80
21. General satisfaction .....	.95	.88	.82

Table 1 shows that Hoyt reliability coefficients for the MSQ scales ranged from a high of .97 on Ability Utilization (for both stenographers and typists) and on Working Conditions (for social workers) to a low of .59 on Variety (for buyers). The median Hoyt reliability coefficients ranged from .93 for Advancement and Recognition to .78 for Responsibility. Of the 567 Hoyt reliability coefficients reported in Section III-B (27 groups with 21 scales each), 83% were .80 or higher and only 2.5% were lower than .70.

These data suggest that, in general, the MSQ scales have adequate internal consistency reliabilities. The reliability of some scales, however, tends to vary across groups. It is, therefore, suggested that internal consistency reliability coefficients be computed for a sample representing the group on which the MSQ is used.

**Stability**—Data on the stability of the scores on the 21 MSQ scales were obtained for two time intervals—one week and one year. For the one week retest, data were obtained on 75 employed night school students in courses in psychology and industrial relations; for the one year retest, data were obtained on 115 employed individuals. Both groups were heterogeneous with respect to age and occupational level (although the latter group included a wider range of occupations), and the one-year group was heterogeneous with respect

to presence or absence, as well as type of disability. Neither group included individuals who had changed jobs between MSQ administrations.

Test-retest correlation coefficients for the 21 MSQ scales are shown in Table 2. For a one-week interval, stability coefficients ranged from .66 for Co-workers, to .91 for Working Conditions. Median coefficient (excluding the General Satisfaction scale) was .83. One-week stability coefficient for the General Satisfaction scale was .89.

**Table 2. Test re-test correlation coefficients for one week interval and one year interval, by MSQ scale**

Scale	One week N = 75	One year N = 115
1. Ability utilization .....	.84	.71
2. Achievement .....	.81	.62
3. Activity .....	.83	.49
4. Advancement .....	.85	.67
5. Authority .....	.85	.47
6. Company policies and practices .....	.80	.61
7. Compensation .....	.79	.62
8. Co-workers .....	.66	.40
9. Creativity .....	.87	.66
10. Independence .....	.75	.35
11. Moral values .....	.83	.53
12. Recognition .....	.86	.69
13. Responsibility .....	.87	.61
14. Security .....	.70	.58
15. Social service .....	.84	.57
16. Social status .....	.80	.63
17. Supervision—human relations .....	.86	.66
18. Supervision—technical .....	.90	.68
19. Variety .....	.80	.69
20. Working conditions .....	.91	.69
21. General satisfaction .....	.89	.70

Table 2 also shows test-retest correlations for a one-year interval. These stability coefficients ranged from .35 for Independence to .71 for Ability Utilization. Median stability coefficient for the 20 scales (excluding General Satisfaction) was .61. Stability coefficient for the General Satisfaction scale for the one-year interval was .70.

A different measure of stability may be obtained by the test-retest *canonical correlation*<sup>10</sup> of the 20 MSQ scales. This method

<sup>10</sup> For an introduction to canonical correlation see Cooley, W. W., and Lohnes, P. R. *Multivariate procedures for the behavioral sciences*. New York: Wiley, 1962.



yields one correlation coefficient, the square of which indicates the proportion of variance in linear combinations of the set of scores which remains common over the time period.

Canonical correlation analysis of the test-retest data yielded maximum coefficients of .97 over the one-week interval and .89 over the one-year interval. These coefficients, significant well beyond the .001 level of statistical significance, indicate that about 95% of the variance of the canonical variates is predictable on one-week retest from knowledge of the first set of scores (and vice versa), and about 80% over the one-year interval. These percentages indicate the proportion of variance of the canonical variates (linear combinations of the two sets of scores) which is common variance across the time intervals.

While canonical correlation has not been widely used as a measure of test-retest stability of psychometric data, one study is available for comparative purposes. This study, by Osborne, Anderson and Hemberger,<sup>11</sup> reported the test-retest stability of factor scores, based on the subtests of the Wechsler Intelligence Scale for Children and two non-verbal tests, over periods of one, two and three years. The maximum test-retest canonical correlation coefficients obtained for these periods were .87, .85 and .87 respectively. The coefficient of .89 for the MSQ obtained in a one-year period compares favorably with these coefficients, since it is generally assumed that scores on ability tests are relatively stable over time.

## Validity

**Construct validity**—Evidence for the validity of the MSQ is derived mainly from its performing according to theoretical expectations. This type of validity is called *construct validity*.<sup>12</sup>

Much of the evidence supporting construct validity for the MSQ is derived indirectly from construct validation studies of the Minnesota Importance Questionnaire (MIQ), based on the *Theory of Work Adjustment*. In one set of studies, the separate scales of the MSQ were the dependent variables to be predicted from the relationship between vocational needs (measured by the MIQ) and

<sup>11</sup> Osborne, R. T., Anderson, H. E., Jr., and Hemberger, L. The stability of basic abilities at early age levels. Paper presented at the 74th annual meeting of the American Psychological Association, September, 1966.

<sup>12</sup> *Technical recommendations for psychological tests and diagnostic techniques*. Supplement to *Psychological Bulletin*, 1954, 51, No. 2, part 2.

(estimated) levels of occupational reinforcement.<sup>13</sup> The hypothesis under investigation was that satisfaction was a function of the correspondence between the individual's needs and the reinforcer system of the job. The major prediction in these studies was that the high-need-high-reinforcement group would express the most satisfaction (being the most correspondent group) and the high-need-low-reinforcement group would express the least satisfaction (being the group with the least correspondence between needs and reinforcers).

Analyses of the data yielded good evidence of construct validity for the Ability Utilization, Advancement and Variety scales of the MIQ and therefore indirectly for the same scales of the MSQ. Some evidence of construct validity was observed for the Authority, Achievement, Creativity and Responsibility scales. Little evidence of construct validity was observed for the Activity, Compensation, Independence, Moral Values, Recognition, Security, Social Service, Social Status and Working Conditions scales. Thus, for seven of the sixteen MSQ scales studied, there was some indication that scores on these scales were related to need-reinforcement correspondence.

Further analysis of the MIQ and reinforcement data without the use of MSQ data, yielded evidence of construct validity for three other MIQ scales: Compensation, Independence and Social Service. It can be inferred, therefore, that the MSQ Compensation, Independence and Social Service scales were not performing according to theoretical expectations and should be used with caution until further evidence of validity for these three scales is available.

Evidence for the validity of the MSQ as a measure of general job satisfaction comes from other construct validation studies based on the *Theory of Work Adjustment*. In these studies, general job satisfaction (using an exact factor score) was the dependent variable and MIQ scale scores were the independent variables in a multivariate prediction problem.<sup>14</sup> Reinforcement was assumed to be constant since each prediction study involved individuals who were all employed at the same kind of job. Thus, with the reinforcer

<sup>13</sup> Weiss, D. J., Dawis, R. V., England, G. W., and Lofquist, L. H. Construct validation studies of the Minnesota Importance Questionnaire. *Minnesota studies in vocational rehabilitation, XVIII*, 1964.

<sup>14</sup> Weiss, D. J., Dawis, R. V., England, G. W., and Lofquist, L. H. An inferential approach to occupational reinforcement. *Minnesota studies in vocational rehabilitation, XIX*, 1965.

system of the work environment held constant, satisfaction (MSQ) becomes a linear function of the linear composite of needs (MIQ).

The results of these studies, reported in Monograph XIX of the *Minnesota Studies in Vocational Rehabilitation* series, indicated that the MSQ measured satisfaction in accordance with expectations from the *Theory of Work Adjustment*.

**Group differences**—Evidence for the concurrent validity of the MSQ is derived from the study of group differences in satisfaction, especially occupational differences in satisfaction. A large body of research accumulated over the last thirty years indicates that there are occupational differences in job satisfaction, in both level and variability.

To determine whether the MSQ reflected these differences, data for 25 occupational groups were analyzed by one-way analysis of variance (to test differences in level of expressed satisfaction) and by Bartlett's test of homogeneity of variance (to test differences in group variabilities). Table 3 shows the grand mean and standard deviation for the combined 25 groups for each MSQ scale, and the results of the statistical tests. Summary MSQ data for each of the 25 groups appear in Section III-B (pages 36-91).

As Table 3 indicates, group differences (among the 25 occupational groups) were statistically significant at the .001 level for both means and variances on all 21 MSQ scales. These data indicate that the MSQ can differentiate among occupational groups.

To determine whether this differentiation was meaningful, means and variances for each of the 21 scales were examined to see which occupational groups had the highest and lowest means or the largest and smallest variance. (The research literature on job satisfaction has reported consistently that professional groups were the most satisfied and the unskilled groups the least satisfied.)<sup>15</sup>

The data show that field representatives (high-level management consultants; see Section III-B, p. 44) had the highest means on nine MSQ scales (Activity, Advancement, Company Policies and Practices, Independence, Security, Social Status, Variety, Working Conditions, and General Satisfaction); teachers had the highest means on seven scales (Ability Utilization, Achievement, Co-

<sup>15</sup> See, for example, Herzberg, F., Mausner, B., Peterson, R. O., and Capwell, D. F. *Job attitudes: review of research and opinion*. Pittsburgh: Psychological Services of Pittsburgh, 1957.

**Table 3. Total group mean, standard deviation, results of tests of occupational group differences in mean and variances, by MSQ scale (N = 2,955)**

Scale	Mean differences			Variance differences		
	Total Group Mean	F <sup>a</sup> (24, 2930)	p <sup>b</sup>	Total Group Standard Deviation	Chi-Square <sup>c</sup>	p <sup>d</sup>
1. Ability utilization .....	19.1	17.88	.001	3.81	138.66	.001
2. Achievement .....	20.1	9.98	.001	2.98	88.66	.001
3. Activity .....	20.3	6.10	.001	2.71	163.03	.001
4. Advancement .....	16.5	15.07	.001	4.43	96.46	.001
5. Authority .....	18.2	21.42	.001	2.88	85.57	.001
6. Company policies and practices .....	17.3	9.65	.001	4.48	63.78	.001
7. Compensation .....	16.9	21.07	.001	4.54	52.54	.001
8. Co-workers .....	20.1	9.78	.001	3.13	179.94	.001
9. Creativity .....	18.2	25.98	.001	3.60	90.79	.001
10. Independence .....	19.2	10.10	.001	3.08	86.45	.001
11. Moral values .....	20.9	7.99	.001	2.61	88.98	.001
12. Recognition .....	17.6	10.75	.001	4.15	75.72	.001
13. Responsibility .....	19.3	20.83	.001	2.81	121.27	.001
14. Security .....	20.2	11.78	.001	2.98	99.13	.001
15. Social service .....	20.7	19.73	.001	2.80	121.50	.001
16. Social status .....	18.0	8.74	.001	2.94	107.35	.001
17. Supervision—human relations .....	18.7	13.17	.001	4.34	179.53	.001
18. Supervision—technical .....	18.7	12.77	.001	3.82	136.39	.001
19. Variety .....	19.0	15.13	.001	3.73	306.03	.001
20. Working conditions .....	18.6	15.84	.001	4.29	103.84	.001
21. General satisfaction .....	75.6	19.51	.001	9.48	147.39	.001

<sup>a</sup> F-test of significance of difference between means.

<sup>b</sup> Probability of error in rejecting null hypothesis of no difference in group means if  $p \leq .05$ .

<sup>c</sup> Chi-square for Bartlett's test of homogeneity of variance.

<sup>d</sup> Probability of error of rejecting null hypothesis of no differences in group variances, if  $p \leq .05$ , based on Bartlett's test of homogeneity of variance, with 24 degrees of freedom.

workers, Creativity, Social Service, Supervision—Human Relations, and Supervision—Technical); managers were highest on four scales (Creativity, Moral Values, Recognition, and Responsibility); and licensed practical nurses were highest on Compensation. In contrast, housekeeping aides were lowest on nine scales (Advancement, Company Policies and Practices, Creativity, Moral Values, Recognition, Security, Supervision—Human Relations, Supervision—Technical and General Satisfaction); laborers on seven scales (Ability Utilization, Achievement, Activity, Authority, Responsibility, Social Service, and Variety); small equipment operators on two scales (Social Status and Co-workers); and part-time nurses, food service workers and toy assemblers on the remaining scales. These results are comparable with those reported in the research literature.

The data on MSQ scale variabilities are more difficult to interpret than the data on scale means. Variabilities in satisfaction scores may result from differences in the needs of individual workers and/or from differences in the reinforcer systems of jobs. The most variable group was food service workers, which had the highest variability on 12 of the 21 scales (Advancement, Authority, Co-workers, Creativity, Independence, Moral Values, Responsibility, Security, Social Service, Social Status, Variety and General Satisfaction). Accountants were most variable on the two Supervision scales and Working Conditions. Secretaries were most variable on Activity, Company Policies and Practices, and Compensation; housekeeping aides on Recognition and Achievement; and stenographers and typists on Ability Utilization. Buyers were least variable on Achievement, Activity, Company Policies and Practices, and Supervision—Technical, Variety and General Satisfaction, and teachers were least variable on Advancement, Creativity, Recognition and Supervision—Human Relations. Lowest variability on the remaining 12 scales was as follows: housekeeping aides on Ability Utilization and Social Service; supervisor nurses on Authority; laborers on Compensation; field representatives on Co-Workers and Working Conditions; engineers on Independence, Moral Values and Security; social workers on Responsibility; and business machine operators on Social Status.

Previous Work Adjustment Project research has indicated that disabled groups were, in general, less satisfied than non-disabled groups.<sup>16</sup> Thus, the MSQ was expected to reflect similar differences in satisfaction between those with disabling conditions and those without.

Table 4 shows means and standard deviations for the 21 MSQ scales, separately for disabled and non-disabled groups. Mean differences were tested by one-way analysis of variance, and differences in variability were tested by Bartlett's test of homogeneity of variance.

The data in Table 4 show that statistically significant differences (at the .05 level or less) in mean satisfaction levels were obtained on 11 of the 21 MSQ scales: Ability Utilization, Achievement, Authority, Compensation, Creativity, Moral Values, Recognition, Re-

<sup>16</sup> Carlson, R. E., Dawis, R. V., England, G. W., and Lofquist, L. H. The measurement of employment satisfaction. *Minnesota studies in vocational rehabilitation*, XIII, 1962.

**Table 4. Means and standard deviations for disabled and non-disabled groups, by MSQ scale**

	Mean				Standard Deviation			
	Dis-abled	Non-dis-abled	F <sup>a</sup> (1,733)	p <sup>b</sup>	Dis-abled	Non-disabled	Chi-square <sup>c</sup>	p <sup>d</sup>
1. Ability utilization	18.9	19.8	8.25	.01	4.31	3.59	12.42	.001
2. Achievement	20.1	20.7	5.87	.05	3.13	2.81	4.36	.05
3. Activity	20.6	20.9	2.20		2.72	2.65	0.29	
4. Advancement	16.4	16.8	1.47		5.14	4.68	3.21	
5. Authority	18.0	18.5	4.46	.05	3.33	3.16	1.06	
6. Company policies and practices	17.5	17.7	0.41		4.67	4.45	0.83	
7. Compensation	18.0	18.7	4.01	.05	4.66	3.91	11.18	.001
8. Co-workers	20.1	20.4	2.95		2.86	2.80	0.20	
9. Creativity	18.5	19.3	6.60	.05	4.33	3.77	6.80	.01
10. Independence	19.3	19.6	1.50		3.41	3.05	4.49	.05
11. Moral values	21.0	21.4	4.46	.05	2.74	2.57	1.56	
12. Recognition	18.1	18.8	5.01	.05	4.26	3.80	4.59	.05
13. Responsibility	19.3	19.9	6.80	.01	3.32	2.90	6.62	.05
14. Security	19.9	20.3	2.49		3.86	3.45	4.54	.05
15. Social service	20.2	20.5	0.90		3.04	3.24	1.47	
16. Social status	17.4	18.0	6.17	.05	3.37	2.82	11.91	.001
17. Supervision—human relations	18.4	18.8	1.91		4.55	4.28	1.38	
18. Supervision—technical	18.3	18.9	3.41		4.35	3.98	2.92	
19. Variety	19.5	20.0	4.94	.05	3.68	3.40	2.40	
20. Working conditions	19.0	19.1	0.19		4.47	4.28	0.66	
21. General satisfaction	75.8	77.9	6.75	.01	11.06	9.91	4.46	.05

<sup>a</sup> F-test of significance of difference between means.

<sup>b</sup> Probability of error in rejecting null hypothesis of no difference in group means, if  $p \leq .05$ .

<sup>c</sup> Chi-square for Bartlett's test of homogeneity of variance.

<sup>d</sup> Probability of error in rejecting null hypothesis of no differences in group variances, if  $p \leq .05$ , based on Bartlett's test of homogeneity of variance, with 1 degree of freedom.

sponsibility, Social Status, Variety, and General Satisfaction. On each of these eleven scales, the mean satisfaction score for the disabled group was significantly lower than that of the non-disabled group, thereby confirming previous research findings. It is also interesting to note that while the differences in means for the remaining 10 scales were not statistically significant, in every case the mean for the disabled group was lower than that of the non-disabled group.

Differences in variability of satisfaction scores between disabled and non-disabled groups, as shown in Table 4, were statistically significant for 10 of the 21 MSQ scales: Ability Utilization, Achievement, Compensation, Creativity, Independence, Recognition, Re-

sponsibility, Security, Social Status, and General Satisfaction. On all of these scales, the disabled group was significantly *more* variable than the non-disabled group. While group differences in variability were not statistically significant for the remaining 11 MSQ scales, the disabled group was more variable than the non-disabled group on 10 of these 11 scales (the exception being the Social Service scale).

These data, then, lend added support to the MSQ as a measure of satisfaction.

**Factor structure**—Factor analytic results presented in this section may be used to support the content validity of the MSQ.<sup>17</sup> Intercorrelations of the 21 MSQ scales were computed for fourteen norm groups, each group consisting of at least 100 individuals. The intercorrelation matrices for these groups are shown in Section III-C (pp. 93-100). It should be noted that the correlations of the 20 scales with the General Satisfaction scale (scale 21) represent part-whole correlations. For this reason, the General Satisfaction scale was excluded from the factor analyses reported below.

The intercorrelation matrices were factor analyzed utilizing a principal factors solution, with squared multiple correlations in the diagonal, the Kaiser criterion for number of factors to extract, and rotation to a varimax solution. The results of these factor analyses are shown in Section III-D (pp. 101-108).

For both the disabled and non-disabled groups, two factors were extracted, with the first factor accounting for 58% and 55%, respectively, of the common variance for the two groups. The first factor in both cases appeared to be intrinsic satisfaction, and the second factor, extrinsic satisfaction.

Two factors were also extracted for eight of the twelve occupational groups. These groups included teachers, managers, supervisor nurses, full- and part-time nurses, secretaries, toy assemblers and packers. The pattern of factor loadings for the full-time nurses, supervisor nurses, managers, and toy assemblers was similar to that of the disabled and non-disabled groups, with the first factor being intrinsic satisfaction, and the second factor, extrinsic satisfaction. Proportion of common variance attributable to the first factor was .59, .57, .57 and .51, respectively, for the four groups.

---

<sup>17</sup> Content validity is further indicated by data on Hoyt reliability coefficients. See pages 13-14.

For the packers and part-time nurses, however, the extrinsic satisfaction factor was the first principal factor, accounting in both cases for 51% of common variance after rotation. The second factor was intrinsic satisfaction. There were some slight differences in the factor structures for these two groups.

For the teachers and secretaries, the first factor was intrinsic satisfaction. The second factor, however, appeared to relate to people as a source of satisfaction, being defined by the two Supervision scales, and Co-workers and Recognition. For both groups, the first factor accounted for about two-thirds of the common variance.

More complex factor structures were observed for the remaining four occupational groups (social workers, office clerks, truck drivers and warehousemen). The extrinsic satisfaction factor, defined by the two Supervision scales, Company Policies and Practices, and Working Conditions, was fairly similar for the four groups, and accounted for about one-third of the common variance in each case. However, some of these extrinsic satisfaction scales loaded on other factors. Moreover, two intrinsic satisfaction factors rather than one were found for these four groups. The structures of these two intrinsic satisfaction factors were not similar from group to group.

The results of the factor analyses, in general, indicate that about half of the common MSQ scale score variance can be represented by an extrinsic satisfaction factor, defined by the two Supervision scales, Company Policies and Practices, Working Conditions, Advancement, Compensation and Security. The remaining scales define one or more intrinsic satisfaction factors, accounting for the other half of the common variance. These results also indicate that the factor structure of satisfaction varies among occupational groups.

## The Short-Form MSQ

### Reliability

**Internal consistency**—Hoyt reliability coefficients for each norm group and each short-form scale are shown in Section IV-B, along with the normative data for each of the occupational groups. In general, the reliability coefficients obtained were high. For the Intrinsic Satisfaction scale, the coefficients ranged from .84 (for the two assembler groups) to .91 for engineers. For the Extrinsic Satisfaction scale, the coefficients varied from .77 (for electronics assem-



blers) to .82 (for engineers and machinists). On the General Satisfaction scale, the coefficients varied from .87 (for assemblers) to .92 (for engineers). Median reliability coefficients were .86 for Intrinsic Satisfaction, .80 for Extrinsic Satisfaction and .90 for General Satisfaction.

**Stability**—No data are currently available concerning the stability of scores for the short-form MSQ. A two-year test-retest study is in progress. However, stability for the General Satisfaction scale may be inferred from data on the General Satisfaction scale of the long-form MSQ, since both scales use the same 20 items. As reported on pp. 14-16, test-retest correlation of General Satisfaction scale scores yielded coefficients of .89 over a one-week period and .70 over a one-year interval.

### Validity

Since the short-form MSQ is based on a subset of the long-form items, validity for the short-form may in part be inferred from validity for the long-form. Other evidence for the validity of the short-form MSQ is available from two sources: (1) studies of occupational group differences and (2) studies of the relationship between satisfaction and satisfactoriness, as specified by the *Theory of Work Adjustment*.

**Occupational group differences**—Table 5 shows the mean and standard deviation for the total group on each of the three short-form MSQ scales, and the results of statistical tests of group differences in means and variances. Means and standard deviations on

**Table 5. Means, standard deviations and tests of group differences in means and variances, for total group (N = 1,723), by short-form MSQ scale**

Scale	Total Group Mean	F(6, 1716) <sup>a</sup>	p <sup>b</sup>	Total Group Standard Deviation	Chi-square <sup>c</sup>	p <sup>d</sup>
1. Intrinsic .....	47.14	38.15	.001	7.42	9.08	.....
2. Extrinsic .....	19.98	22.24	.001	4.78	8.22	.....
3. General .....	74.85	38.01	.001	11.92	2.85	.....

<sup>a</sup> F-test of significance of difference between means.

<sup>b</sup> Probability of error in rejecting null hypothesis of no difference in group means, if  $p \leq .05$ .

<sup>c</sup> Chi-square for Bartlett's test of homogeneity of variance.

<sup>d</sup> Probability of error in rejecting null hypothesis of no difference in group variances, based on Bartlett's test of homogeneity of variance, with 6 degrees of freedom.

each scale, separately for each of the seven occupational groups, are in Section IV-B.

As Table 5 indicates, occupational group differences in mean satisfaction scores were statistically significant for each of the three scales. On the Intrinsic Satisfaction and General Satisfaction scales, electronic assemblers had the lowest, and salesmen the highest, mean satisfaction score. On the Extrinsic Satisfaction scale, assemblers were least satisfied (followed closely by electronic assemblers) and salesmen were again the most satisfied group.

Group differences in variability were not statistically significant for any scale.

These results parallel those obtained for the long-form MSQ and those generally found in studies of job satisfaction.

**Relationship with satisfactoriness**—According to the *Theory of Work Adjustment*, satisfaction and satisfactoriness are independent, although interacting, sets of variables. Thus, data reflecting this postulated lack of relationship would support the construct validity of the MSQ scales.

Analyses of the relationship between measured satisfaction and measured satisfactoriness are reported in Monograph XXI of the *Minnesota Studies in Vocational Rehabilitation* series, "Instrumentation for the Theory of Work Adjustment."<sup>18</sup> These included the cross-correlations between MSQ and satisfactoriness scales and the canonical correlation between the three MSQ scales and four scales measuring satisfactoriness. For the total group, the highest correlation between a satisfaction scale and a satisfactoriness scale was  $-.13$ , (between Extrinsic Satisfaction and General Satisfactoriness). The correlation between General Satisfaction and General Satisfactoriness was  $-.11$ . These findings show that, for the total group, less than 2% of the variance was common between any satisfaction scale and any satisfactoriness scale.

Cross-correlations were also computed separately for each of the six occupational groups. These results were similar to those for the total group, with a maximum cross-correlation of  $-.22$ . Mean cross-correlation ranged from  $.04$  for salesmen, to  $.15$  for the clerks.

Canonical correlations were computed between the two satisfaction scales and the three satisfactoriness scales (the "general"

<sup>18</sup> Weiss, D. J., Dawis, R. V., England, G. W., and Lofquist, L. H. Instrumentation for the Theory of Work Adjustment. *Minnesota studies in vocational rehabilitation*, XXI, 1966.

scales were excluded for both instruments). For the total group, the maximum canonical correlation coefficient was .12, indicating that about 1.5% of the total variance of the canonical variates was common variance. For the separate occupational groups, maximum canonical correlation coefficients ranged from .11 to .31. These data show that a maximum of no more than 10% of the variance was common between the two sets of canonical variates.

These data support the expectation that satisfaction and satisfactoriness are independent sets of variables, and therefore indirectly support the validity of the MSQ scales as measures of satisfaction.

### Scale Intercorrelations

Intercorrelations among the three short-form MSQ scales are shown in Table 6. It should be noted that correlations between the Intrinsic Satisfaction or Extrinsic Satisfaction scales and the General Satisfaction scale are part-whole correlations, which accounts for the high coefficients.

**Table 6. Intercorrelations of satisfaction scales, for total group and seven occupational groups**

Occupational group	Scales		
	Factor I and Factor II	Factor I and General Satisfaction	Factor II and General Satisfaction
Total group*	.60	.88	.82
Janitors and maintenancemen	.53	.91	.82
Assemblers	.57	.90	.85
Machinists	.53	.90	.84
Clerks	.64	.94	.85
Electronics assemblers	.66	.93	.87
Salesmen	.52	.92	.80
Engineers	.68	.80	.79

\* Not including electronics assemblers.

Correlations between Intrinsic and Extrinsic Satisfaction scales ranged from .52 for salesmen to .68 for engineers. For the total group, this correlation was .60. While these correlations are somewhat higher than desired, their relatively high reliabilities allow for considerable specific variance in the two satisfaction scales.

## Current Research

Research in progress on the MSQ is oriented toward two objectives: (1) improving the psychometric characteristics of the scales; and (2) expanding the range of dimensions measured by the MSQ.

While the scales of both the short- and long-form MSQ demonstrated adequate psychometric characteristics, it was obvious that there was a "ceiling effect" on many of the scale scores. This was indicated by the fact that scale means for most groups were located within a few points of the maximum possible score, and that most scale score distributions were markedly negatively skewed. Thus, most responses to any item alternated between "Satisfied" and "Very Satisfied," with fewer responses of "Neither" and very few, if any, of "Dissatisfied" and "Very Dissatisfied."

In an attempt to adjust for this "ceiling effect" the rating categories of the scales were modified to range from "not satisfied" to "extremely satisfied." In addition, the numbers 1 to 5 were used to help define the categories as follows:

"1" means I am *not satisfied* (this aspect of my job is much poorer than I would like it to be)

"2" means I am *only slightly satisfied* (this aspect of my job is not quite what I would like it to be)

"3" means I am *satisfied* (this aspect of my job is what I would like it to be)

"4" means I am *very satisfied* (this aspect of my job is even better than I expected it to be)

"5" means I am *extremely satisfied* (this aspect of my job is much better than I hoped it could be)

In the new rating scale, the neutral point ("Neither") is eliminated, the two "dissatisfied" categories ("Dissatisfied" and "Very Dissatisfied") are collapsed into one ("Not Satisfied"), and four degrees of satisfaction ("Only Slightly Satisfied, Satisfied, Very Satisfied, Extremely Satisfied") are provided.

Results obtained on a group of about 200 individuals using the modified rating scale with the long-form MSQ indicate that the desired objectives were generally achieved. Mean scale scores tended to be in about the middle of the potential score range, and

scale scores were distributed more symmetrically across the range. Thus, the "ceiling effect" was eliminated, with no change in scale reliabilities or intercorrelations.

Research is continuing on expanding the range of satisfaction dimensions measured by the MSQ. A 30-scale form has been developed, with 10 new scales added to the original 20. These ten scales are Work Challenge, Company Image, Organization Control, Feedback, Physical Facilities, Work Relevance, Company Prestige, Company Goals, Closure and Compensation II. Further additions to the MSQ, specifically oriented toward scientific personnel, included 23 new scales, a few of which might be found to have relevance for other occupational groups. The characteristics of these new scales, particularly the ten listed above, are currently being studied to determine how much additional coverage of the domain of satisfaction they provide.

## **Section III**

# **The Minnesota Satisfaction Questionnaire Long-Form**

Subsequent to publication of this volume, MSQ items have been edited to remove gender-specific references. The items on the following pages reflect that editing.

## minnesota satisfaction questionnaire

The purpose of this questionnaire is to give you a chance to tell **how you feel about your present job**, what things you are **satisfied** with and what things you are **not satisfied** with.

On the basis of your answers and those of people like you, we hope to get a better understanding of the things people **like and dislike about their jobs**.

On the following pages you will find statements about your **present job**.

- Read each statement carefully.
- Decide **how satisfied you feel about the aspect of your job** described by the statement.

Keeping the statement in mind:

- if you feel that your job gives you **more than you expected**, check the box under **"Very Sat."** (Very Satisfied);
- if you feel that your job gives you **what you expected**, check the box under **"Sat."** (Satisfied);
- if you **cannot make up your mind** whether or not the job gives you what you expected, check the box under **"N"** (Neither Satisfied nor Dissatisfied);
- If you feel that your job gives you **less than you expected**, check the box under **"Dissat."** (Dissatisfied);
- if you feel that your job gives you **much less than you expected**, check the box under **"Very Dissat."** (Very Dissatisfied).

- Remember: Keep the statement in mind when deciding **how satisfied you feel about that aspect of your job**.
- Do this for **all** statements. Please answer **every** item.

**Be frank and honest.** Give a true picture of your feelings about your **present job**.

Ask yourself: How satisfied am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

**On my present job, this is how I feel about . . .**

	Very Dissat.	Dissat.	N	Sat.	Very Sat.
1. The chance to be of service to others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The chance to try out some of my own ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Being able to do the job without feeling it is morally wrong.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The chance to work by myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The variety in my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The chance to have other workers look to me for direction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The chance to do the kind of work that I do best.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The social position in the community that goes with the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The policies and practices toward employees of this company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. The way my supervisor and I understand each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. My job security.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The amount of pay for the work I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. The working conditions (heating, lighting, ventilation, etc.) on this job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The opportunities for advancement on this job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. The technical "know-how" of my supervisor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. The spirit of cooperation among my co-workers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. The chance to be responsible for planning my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The way I am noticed when I do a good job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Being able to see the results of the work I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. The chance to be active much of the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. The chance to be of service to people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. The chance to do new and original things on my own.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Being able to do things that don't go against my religious beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. The chance to work alone on the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. The chance to do different things from time to time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Very Dissat.	Dissat.	N	Sat.	Very Sat.



Ask yourself: How satisfied am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

**On my present job, this is how I feel about . . .**

	Very Dissat.	Dissot.	N	Sat.	Very Sat.
26. The chance to tell other workers how to do things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. The chance to do work that is well suited to my abilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. The chance to be "somebody" in the community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Company policies and the way in which they are administered.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. The way my boss handles his/her employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. The way my job provides for a secure future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. The chance to make as much money as my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. The physical surroundings where I work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. The chances of getting ahead on this job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. The competence of my supervisor in making decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. The chance to develop close friendships with my co-workers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. The chance to make decisions on my own.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. The way I get full credit for the work I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. Being able to take pride in a job well done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Being able to do something much of the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. The chance to help people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. The chance to try something different.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. Being able to do things that don't go against my conscience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. The chance to be alone on the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. The routine in my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. The chance to supervise other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. The chance to make use of my best abilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. The chance to "rub elbows" with important people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. The way employees are informed about company policies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. The way my boss backs up his/her employees (with top management).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Very Dissot.	Dissot.	N	Sat.	Very Sat.

Ask yourself: How satisfied am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

**On my present job, this is how I feel about . . .**

	Very Dissat.	Dissat.	N	Sat.	Very Sat.
51. The way my job provides for steady employment. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. How my pay compares with that for similar jobs in other companies. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. The pleasantness of the working conditions. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. The way promotions are given out on this job. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. The way my boss delegates work to others. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. The friendliness of my co-workers. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57. The chance to be responsible for the work of others. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58. The recognition I get for the work I do. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59. Being able to do something worthwhile. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60. Being able to stay busy. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61. The chance to do things for other people. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62. The chance to develop new and better ways to do the job. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63. The chance to do things that don't harm other people. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64. The chance to work independently of others. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65. The chance to do something different every day. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
66. The chance to tell people what to do. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
67. The chance to do something that makes use of my abilities. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68. The chance to be important in the eyes of others. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
69. The way company policies are put into practice. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
70. The way my boss takes care of the complaints of his/her employees. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71. How steady my job is. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
72. My pay and the amount of work I do. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
73. The physical working conditions of the job. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
74. The chances for advancement on this job. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
75. The way my boss provides help on hard problems. . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Very Dissat.	Dissat.	N	Sat.	Very Sat.

Ask yourself: How satisfied am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

**On my present job, this is how I feel about . . .**

	Very Dissat.	Dissat.	N	Sat.	Very Sat.
76. The way my co-workers are easy to make friends with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
77. The freedom to use my own judgment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
78. The way they usually tell me when I do my job well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
79. The chance to do my best at all times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
80. The chance to be "on the go" all the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
81. The chance to be of some small service to other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
82. The chance to try my own methods of doing the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
83. The chance to do the job without feeling I am cheating anyone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
84. The chance to work away from others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
85. The chance to do many different things on the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
86. The chance to tell others what to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
87. The chance to make use of my abilities and skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
88. The chance to have a definite place in the community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
89. The way the company treats its employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
90. The personal relationship between my boss and his/her employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91. The way layoffs and transfers are avoided in my job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
92. How my pay compares with that of other workers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
93. The working conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
94. My chances for advancement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
95. The way my boss trains his/her employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
96. The way my co-workers get along with each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
97. The responsibility of my job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
98. The praise I get for doing a good job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
99. The feeling of accomplishment I get from the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
100. Being able to keep busy all the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Very Dissat.	Dissat.	N	Sat.	Very Sat.

## **Section III-B**

### **Normative Data for the Long-Form MSQ**

## ACCOUNTANTS

(N=53)

**Job description.** D.O.T. 160.188. Applies principles of accounting in operation of general accounting system. Maintains accounts and records or supervises subordinates in bookkeeping activities.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	7	13	male .....	51	96
26 to 35 .....	21	40	female .....	2	4
36 to 45 .....	17	32	<b>Tenure in present occupation</b>		
46 to 55 .....	6	11	1 year or less .....	6	11
56 to 65 .....	0	0	2 to 5 years .....	14	26
66 and over .....	0	0	6 to 10 years .....	11	21
<b>Education</b>			11 to 20 years .....	19	36
less than 12 years .....	0	0	21 to 30 years .....	3	6
high school graduate .....	6	11	31 years and over .....	0	0
some college .....	24	45	<b>Employer</b>		
college graduate .....	23	43	Company 1 .....	26	49
			Company 2 .....	24	45
			Company 3 .....	3	6

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.91	4.28	.91	1.25
2. Achievement .....	20.25	3.66	.91	1.10
3. Activity .....	20.32	3.15	.85	1.21
4. Advancement .....	17.47	5.43	.96	1.07
5. Authority .....	19.81	3.70	.92	1.04
6. Company policies & practices .....	16.09	5.02	.89	1.67
7. Compensation .....	16.38	5.02	.95	1.09
8. Co-workers .....	20.47	2.64	.82	1.13
9. Creativity .....	19.30	4.14	.92	1.19
10. Independence .....	19.60	3.29	.87	1.18
11. Moral values .....	21.19	2.92	.82	1.25
12. Recognition .....	17.62	4.88	.96	1.03
13. Responsibility .....	20.06	3.56	.89	1.19
14. Security .....	20.02	2.89	.77	1.39
15. Social service .....	20.76	3.14	.94	.77
16. Social status .....	18.59	3.62	.90	1.13
17. Supervision—				
human relations .....	18.59	5.24	.95	1.19
18. Supervision—technical .....	18.59	4.61	.92	1.34
19. Variety .....	20.09	3.51	.90	1.13
20. Working conditions .....	16.72	6.05	.96	1.19
21. General satisfaction .....	76.51	12.20	.92	3.41

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	9	10	11	14	17	18	19					20		21	22	23		24			25
2. Achievement	7	10	16	18	19							20		21		22		23	24		25
3. Activity	11	15	16	17	18		19						20		21	22	23	24			25
4. Advancement	6	8	9	10	11	13	14	15	16	17	18	19			20	21	22	24			25
5. Authority	11	12	14	15	16	18		19					20		21	22	23	24			25
6. Company policies and practices	5	6	8	10	11	12	13	15		16		17	18		19				20	24	25
7. Compensation	5	7	8		10	12	13	14	15	16	18		19					20	21	23	25
8. Co-workers	14	16	17			18	19					20			21	22	23		24		25
9. Creativity	6	8	13	14	16	17	18		19					20		21	22	23	24		25
10. Independence	9	14	15	16	17		18			19			20			21	22	23	24		25
11. Moral values	11	16	17	18	19					20		21		22		23		24			25
12. Recognition		8		10	11	14	15	16	17	18							20	22	24		25
13. Responsibility	7	13		16	17	18		19						21		22		23	24		25
14. Security	15			16	17		18			19				20	21		22	24			25
15. Social service	10	15	17	18	19									20	21	22	23		24		25
16. Social status	5	11	14	15	16		17		18		19					20		21	22	23	25
17. Supervision—human relations	5	6	9	12	15	16	17	18	19					20		21		22	23	24	25
18. Supervision—technical	5	6	10	12	15	16	17	18			19			20			21	23		24	25
19. Variety	5	13	16	17	18			19						20		21	22		23	24	25
20. Working conditions		5	7	9		10	11	13	15	17	19					20	21	22	24		25
21. General satisfaction	39	55	61	66	68	70	72	73	74	75	76	77	79		80	82	84	89	95	96	97
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

ACCOUNTANTS

## BUYERS

(N = 39)

**Job description.** D.O.T. 162.158. Purchases merchandise in open market for resale in chain stores. May specialize in buying certain type of merchandise, such as drugs or canned goods.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	5	13	male .....	39	100
26 to 35 .....	9	23	female .....	0	0
36 to 45 .....	16	41	<b>Tenure in present occupation</b>		
46 to 55 .....	8	21	1 year or less .....	4	10
56 to 65 .....	0	0	2 to 5 years .....	14	36
66 and over .....	0	0	6 to 10 years .....	8	20
<b>Education</b>			11 to 20 years .....	8	20
less than 12 years .....	4	10	21 to 30 years .....	2	5
high school graduate .....	17	44	31 years and over .....	2	5
some college .....	13	33	<b>Employer</b>		
college graduate .....	5	13	Company 1 .....	2	5
			Company 2 .....	33	85
			Company 3 .....	4	10

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.72	2.95	.89	.96
2. Achievement .....	20.80	2.09	.79	.97
3. Activity .....	20.85	2.07	.71	1.11
4. Advancement .....	17.90	3.82	.91	1.14
5. Authority .....	19.05	2.41	.85	.94
6. Company policies & practices	19.51	3.34	.80	1.49
7. Compensation .....	16.13	4.46	.94	1.09
8. Co-workers .....	21.10	2.14	.87	1.23
9. Creativity .....	19.41	2.94	.83	1.20
10. Independence .....	20.05	2.52	.79	1.17
11. Moral values .....	21.08	2.15	.75	1.06
12. Recognition .....	17.39	4.07	.92	1.15
13. Responsibility .....	20.05	2.53	.77	1.21
14. Security .....	21.31	2.26	.82	.97
15. Social service .....	20.31	2.70	.90	.84
16. Social status .....	19.31	2.04	.71	1.10
17. Supervision— human relations .....	19.95	3.52	.87	1.26
18. Supervision—technical .....	19.90	2.64	.71	1.42
19. Variety .....	19.31	2.28	.59	1.47
20. Working conditions .....	19.49	4.09	.88	1.44
21. General satisfaction .....	78.54	7.33	.82	3.15

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization .....	10	12	15	17	18	19	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	25	
2. Achievement .....	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	21	22	.....	24	.....	25	
3. Activity .....	16	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	.....	22	23	24	.....	25	
4. Advancement .....	10	11	12	13	14	.....	15	.....	17	18	19	.....	.....	.....	.....	.....	20	21	22	23	24	
5. Authority .....	12	15	.....	16	.....	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	.....	20	21	23	25	
6. Company policies and practices .....	.....	.....	12	14	.....	17	18	.....	19	.....	.....	.....	20	.....	21	.....	22	.....	23	.....	24	
7. Compensation .....	8	.....	.....	10	.....	11	12	13	14	15	16	18	19	.....	.....	.....	.....	20	.....	21	24	
8. Co-workers .....	.....	16	17	19	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	21	22	.....	23	.....	24	25	
9. Creativity .....	10	13	14	15	16	18	.....	19	.....	.....	.....	.....	20	.....	.....	.....	.....	21	22	23	24	
10. Independence .....	.....	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	24	25	
11. Moral values .....	14	18	.....	19	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	21	.....	.....	22	23	24	25	
12. Recognition .....	.....	.....	10	12	.....	14	.....	15	.....	16	17	18	19	.....	.....	.....	20	.....	21	24	25	
13. Responsibility .....	.....	14	17	.....	.....	.....	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	.....	23	24	25
14. Security .....	15	17	18	19	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	21	.....	22	23	.....	24	25	
15. Social service .....	12	15	16	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	21	22	23	24	25	
16. Social status .....	.....	.....	.....	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	20	21	.....	25	
17. Supervision—human relations .....	11	13	15	16	17	.....	18	.....	.....	19	.....	20	.....	21	.....	22	.....	.....	24	.....	25	
18. Supervision—technical .....	13	14	16	17	.....	18	.....	.....	.....	19	.....	.....	.....	20	.....	21	22	.....	23	24	25	
19. Variety .....	.....	15	16	17	.....	.....	.....	18	.....	.....	.....	.....	19	.....	.....	20	.....	21	22	24	25	
20. Working conditions .....	6	8	14	16	18	.....	19	.....	.....	.....	.....	.....	.....	.....	20	21	.....	22	23	24	25	
21. General satisfaction .....	63	.....	69	.....	70	72	74	.....	75	77	78	.....	79	80	82	83	85	87	89	90	95	

1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 99

Percentiles

BUYERS



## ENGINEERS

(N=38)

**Job description.** Professional engineers, including chemical, electrical, industrial and mechanical engineers.

**Administration.** Questionnaires were administered to employees on the job,

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	6	16	male .....	38	100
26 to 35 .....	13	34	female .....	0	0
36 to 45 .....	11	29	<b>Tenure in present occupation</b>		
46 to 55 .....	5	13	1 year or less .....	3	8
56 to 65 .....	1	3	2 to 5 years .....	11	29
66 and over .....	0	0	6 to 10 years .....	7	18
<b>Education</b>			11 to 20 years .....	14	37
less than 12 years .....	0	0	21 to 30 years .....	3	8
high school graduate .....	3	8	31 years and over .....	0	0
some college .....	9	24	<b>Employer</b>		
college graduate .....	26	68	Company 1 .....	22	58
			Company 2 .....	14	37
			Company 3 .....	2	5

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.03	3.39	.92	.98
2. Achievement .....	20.32	2.66	.73	1.39
3. Activity .....	21.42	2.47	.81	1.08
4. Advancement .....	17.18	4.30	.96	.89
5. Authority .....	19.00	3.12	.91	.95
6. Company policies & practices .....	18.53	3.50	.87	1.28
7. Compensation .....	16.74	4.13	.95	.94
8. Co-workers .....	21.00	2.16	.67	1.23
9. Creativity .....	20.05	2.96	.87	1.07
10. Independence .....	19.76	2.42	.73	1.27
11. Moral values .....	22.03	2.02	.77	.98
12. Recognition .....	18.40	4.16	.96	.88
13. Responsibility .....	20.18	3.05	.85	1.18
14. Security .....	21.45	2.17	.78	1.01
15. Social service .....	20.84	2.58	.89	.88
16. Social status .....	18.71	2.61	.76	1.27
17. Supervision—				
human relations .....	19.68	4.06	.90	1.28
18. Supervision—technical .....	19.05	3.19	.71	1.72
19. Variety .....	20.58	3.00	.85	1.17
20. Working conditions .....	19.61	4.59	.94	1.13
21. General satisfaction .....	78.97	7.99	.85	3.05

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	10	11	14	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	.....	22	24	25
2. Achievement .....	.....	15	16	17	18	.....	19	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	24	.....	25
3. Activity .....	.....	16	18	.....	19	.....	.....	.....	20	.....	21	.....	.....	22	.....	.....	23	24	.....	.....	25
4. Advancement .....	6	.....	10	11	14	.....	.....	15	17	18	.....	.....	19	.....	.....	.....	.....	20	21	22	25
5. Authority .....	.....	10	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	25
6. Company policies and practices .....	10	11	13	14	16	.....	.....	17	.....	18	.....	19	.....	.....	20	21	22	.....	23	25	.....
7. Compensation .....	.....	8	10	11	13	14	.....	15	16	17	.....	.....	18	19	.....	.....	.....	.....	20	21	25
8. Co-workers .....	17	.....	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	23	24	.....	.....	25
9. Creativity .....	12	14	15	16	18	.....	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	.....	23	24	25
10. Independence .....	.....	15	16	.....	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	24	25
11. Moral values .....	18	19	.....	.....	.....	.....	20	.....	21	.....	.....	.....	.....	22	23	.....	24	.....	.....	.....	25
12. Recognition .....	.....	.....	10	14	.....	15	17	18	.....	19	.....	.....	.....	.....	.....	20	21	.....	22	24	25
13. Responsibility .....	12	13	14	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	.....	23	24	25
14. Security .....	15	18	.....	19	.....	.....	20	.....	.....	.....	.....	.....	21	.....	22	.....	23	.....	24	.....	25
15. Social service .....	14	16	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	21	.....	22	23	24	.....	.....	25
16. Social status .....	12	14	15	.....	.....	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	22	25
17. Supervision—human relations .....	.....	10	12	14	.....	17	18	19	.....	.....	20	.....	.....	21	.....	.....	22	23	24	.....	25
18. Supervision—technical .....	11	12	14	15	.....	16	17	18	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	.....	23
19. Variety .....	10	14	17	18	.....	.....	19	.....	.....	.....	20	.....	.....	21	22	.....	23	.....	24	.....	25
20. Working conditions .....	6	10	13	14	17	18	19	.....	.....	.....	.....	.....	20	21	22	23	.....	24	.....	.....	25
21. General satisfaction .....	61	63	66	70	71	73	76	77	.....	78	79	80	81	82	84	85	87	88	89	90	91
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

ENGINEERS

## FIELD REPRESENTATIVES

(N=53)

**Job description.** Guides retail distributors in setting up training programs, suggesting methods and techniques of operation. Advises retail distributors in all phases of store operation and management.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	2	4	male .....	53	100
26 to 35 .....	18	34	female .....	0	0
36 to 45 .....	21	40	<b>Tenure in present occupation</b>		
46 to 55 .....	11	21	1 year or less .....	3	6
56 to 65 .....	1	2	2 to 5 years .....	20	38
66 and over .....	0	0	6 to 10 years .....	9	17
<b>Education</b>			11 to 20 years .....	10	19
less than 12 years .....	4	8	21 to 30 years .....	9	17
high school graduate .....	27	51	31 years and over .....	2	4
some college .....	13	25	<b>Employer</b>		
college graduate .....	8	15	Company 1 .....	3	6
			Company 2 .....	48	91
			Company 3 .....	2	4

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	20.28	3.68	.92	1.06
2. Achievement .....	21.23	2.87	.82	1.24
3. Activity .....	21.83	2.39	.81	1.05
4. Advancement .....	19.98	4.56	.96	.95
5. Authority .....	20.57	3.04	.90	.94
6. Company policies & practices .....	20.53	3.48	.90	1.09
7. Compensation .....	18.51	4.26	.93	1.16
8. Co-workers .....	21.34	1.96	.72	1.04
9. Creativity .....	21.51	3.12	.87	1.15
10. Independence .....	21.13	2.53	.88	.86
11. Moral values .....	21.89	2.91	.93	.76
12. Recognition .....	18.93	4.28	.96	.91
13. Responsibility .....	21.08	3.06	.78	1.42
14. Security .....	21.79	3.03	.83	1.24
15. Social service .....	22.08	2.53	.91	.77
16. Social status .....	20.30	2.43	.84	.97
17. Supervision—				
human relations .....	20.06	4.53	.94	1.08
18. Supervision—technical .....	19.89	3.88	.91	1.19
19. Variety .....	21.55	2.91	.79	1.33
20. Working conditions .....	21.51	2.56	.82	1.08
21. General satisfaction .....	83.53	9.72	.93	2.58

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	10	12	15	16	17	18	19	.....	.....	.....	.....	20	21	.....	22	23	.....	24	.....	.....	25
2. Achievement .....	14	15	17	18	19	.....	.....	.....	.....	.....	20	21	.....	22	23	24	.....	.....	.....	.....	25
3. Activity .....	16	18	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	.....	.....	.....	25
4. Advancement .....	5	9	14	15	16	18	19	.....	.....	.....	.....	.....	20	21	22	23	24	.....	.....	.....	25
5. Authority .....	10	15	16	17	18	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	25
6. Company policies and practices .....	10	12	14	17	19	.....	.....	.....	.....	20	.....	.....	.....	21	.....	22	23	24	.....	.....	25
7. Compensation .....	.....	10	11	12	14	15	16	17	18	.....	19	.....	.....	20	.....	21	22	.....	23	24	25
8. Co-workers .....	.....	19	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	.....	21	22	23	24	.....	.....	25
9. Creativity .....	11	14	19	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	.....	24	.....	.....	.....	.....	25
10. Independence .....	.....	16	17	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	.....	23	.....	24	.....	25
11. Moral values .....	9	16	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	.....	.....	.....	25
12. Recognition .....	9	10	13	14	.....	15	17	.....	18	19	.....	.....	.....	.....	20	22	23	24	.....	.....	25
13. Responsibility .....	14	15	16	17	18	19	.....	.....	20	.....	.....	.....	21	22	23	.....	24	.....	.....	.....	25
14. Security .....	13	14	17	18	19	.....	.....	.....	20	.....	21	.....	22	.....	23	24	.....	.....	.....	.....	25
15. Social service .....	13	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	.....	24	.....	.....	.....	.....	25
16. Social status .....	15	16	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	.....	.....	.....	21	22	24	.....	25
17. Supervision—human relations .....	.....	8	12	15	17	18	19	.....	.....	20	.....	.....	21	.....	22	23	24	.....	.....	.....	25
18. Supervision—technical .....	10	11	12	15	17	18	19	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	.....	25
19. Variety .....	14	15	17	18	19	.....	.....	.....	20	.....	21	22	.....	23	.....	24	.....	.....	.....	.....	25
20. Working conditions .....	16	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	.....	.....	.....	25
21. General satisfaction .....	62	67	68	71	76	78	79	.....	.....	80	81	84	85	87	88	90	93	95	97	98	100
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

FIELD REPRESENTATIVES

**MANAGERS**

(N=135)

**Job description.** This classification includes top executives from the company president through personnel managers, division managers and department heads.

**Administration.** Questionnaires were administered to employees on the job.

**Sample Characteristics**

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	2	1	male .....	134	99
26 to 35 .....	40	30	female .....	1	1
36 to 45 .....	42	31	<b>Tenure in present occupation</b>		
46 to 55 .....	36	27	1 year or less .....	12	9
56 to 65 .....	9	7	2 to 5 years .....	40	30
66 and over .....	0	0	6 to 10 years .....	29	21
<b>Education</b>			11 to 20 years .....	36	27
less than 12 years .....	3	2	21 to 30 years .....	14	10
high school graduate .....	47	35	31 years and over .....	3	2
some college .....	37	27	<b>Employer</b>		
college graduate .....	46	34	Company 1 .....	39	29
			Company 2 .....	76	56
			Company 3 .....	20	15

**Summary Statistics**

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	20.93	3.03	.91	.90
2. Achievement .....	21.35	2.70	.84	1.10
3. Activity .....	21.79	2.22	.74	1.13
4. Advancement .....	19.18	4.38	.95	.95
5. Authority .....	20.65	2.99	.91	.91
6. Company policies & practices	19.48	4.02	.90	1.29
7. Compensation .....	17.77	4.86	.95	1.09
8. Co-workers .....	20.90	2.76	.86	1.04
9. Creativity .....	21.40	2.93	.88	1.01
10. Independence .....	20.67	2.67	.83	1.09
11. Moral values .....	22.08	2.46	.83	1.02
12. Recognition .....	19.50	3.79	.93	.99
13. Responsibility .....	21.26	2.65	.83	1.11
14. Security .....	21.59	2.81	.84	1.11
15. Social service .....	21.39	2.78	.89	.92
16. Social status .....	19.68	2.94	.82	1.26
17. Supervision—				
human relations .....	20.55	3.54	.85	1.36
18. Supervision—technical .....	20.22	3.29	.82	1.40
19. Variety .....	21.21	2.72	.84	1.09
20. Working conditions .....	20.22	4.23	.93	1.11
21. General satisfaction .....	82.37	9.34	.91	2.88

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	9	15	17	18	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	.....	.....	25
2. Achievement	11	16	17	19	.....	.....	.....	.....	20	.....	.....	21	.....	22	.....	23	24	.....	.....	.....	25
3. Activity	14	18	19	.....	.....	.....	.....	.....	20	.....	.....	21	22	.....	23	.....	24	.....	.....	.....	25
4. Advancement	5	10	12	14	15	16	18	.....	19	.....	.....	.....	.....	20	.....	21	23	24	.....	.....	25
5. Authority	8	15	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	.....	25
6. Company policies and practices	8	10	13	15	16	17	18	.....	19	.....	.....	20	.....	21	.....	22	.....	23	24	.....	25
7. Compensation	5	9	10	11	13	15	.....	16	17	18	.....	19	.....	.....	.....	20	21	22	24	.....	25
8. Co-workers	8	16	17	18	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	.....	24	.....	25
9. Creativity	7	16	18	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	23	.....	24	.....	.....	.....	25
10. Independence	13	15	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	25
11. Moral values	9	18	19	.....	.....	.....	20	.....	.....	21	.....	22	.....	23	.....	24	.....	.....	.....	.....	25
12. Recognition	9	12	13	14	16	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	22	23	24	.....	25
13. Responsibility	11	17	18	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	.....	23	.....	24	.....	.....	25
14. Security	12	16	18	.....	19	.....	.....	20	.....	21	.....	22	.....	.....	23	.....	24	.....	.....	.....	25
15. Social service	11	17	18	19	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	.....	24	.....	.....	.....	25
16. Social status	9	14	15	16	17	.....	18	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	23	24	25
17. Supervision—human relations	9	13	15	17	18	19	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	.....	25
18. Supervision—technical	10	13	15	17	.....	18	.....	19	.....	.....	.....	.....	20	21	.....	22	23	.....	24	.....	25
19. Variety	9	17	18	19	.....	.....	.....	.....	20	.....	.....	21	.....	.....	22	.....	23	.....	24	.....	25
20. Working conditions	6	10	13	16	18	19	.....	.....	.....	.....	.....	20	21	22	.....	23	24	.....	.....	.....	25
21. General satisfaction	52	66	72	74	75	76	77	78	79	80	81	83	84	85	87	88	90	93	95	97	99
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

MANAGERS

## LICENSED PRACTICAL NURSES

(N=42)

**Job description.** D.O.T. 079.378. Takes physical care (feeds, bathes, etc.) of patients in hospitals. Cleans rooms, makes beds, and answers patients' calls. Licensed by State.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	19	45	male .....	1	2
26 to 35 .....	9	21	female .....	21	98
36 to 45 .....	1	2	<b>Tenure in present occupation</b>		
46 to 55 .....	5	12	1 year or less .....	8	19
56 to 65 .....	7	17	2 to 5 years .....	19	45
66 and over .....	0	0	6 to 10 years .....	9	21
<b>Education</b>			11 to 20 years .....	2	5
less than 12 years .....	5	12	21 to 30 years .....	3	7
high school graduate .....	35	83	31 years and over .....	0	0
some college .....	1	2	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	0	0
			Company 3 .....	0	0
			Company 4 .....	42	100

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	20.57	4.03	.92	1.11
2. Achievement .....	21.62	2.82	.85	1.08
3. Activity .....	21.36	2.52	.82	1.07
4. Advancement .....	18.60	4.29	.91	1.27
5. Authority .....	18.67	3.03	.90	.97
6. Company policies & practices .....	18.95	3.78	.86	1.42
7. Compensation .....	20.00	3.70	.90	1.19
8. Co-workers .....	21.48	2.92	.90	.94
9. Creativity .....	19.62	3.18	.91	.95
10. Independence .....	19.62	3.19	.85	1.23
11. Moral values .....	21.62	2.84	.89	.95
12. Recognition .....	19.48	4.36	.95	.95
13. Responsibility .....	20.19	2.94	.88	1.03
14. Security .....	21.62	2.56	.82	1.08
15. Social service .....	22.83	2.12	.89	.69
16. Social status .....	18.83	3.43	.87	1.26
17. Supervision—				
human relations .....	20.26	3.91	.95	.89
Supervision—technical .....	20.33	3.99	.94	1.01
19. Variety .....	19.14	4.12	.91	1.25
20. Working conditions .....	19.69	3.81	.93	1.25
21. General satisfaction .....	81.52	10.34	.93	2.72

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	10	14	15	17	19	.....	.....	20	.....	.....	.....	21	22	.....	23	24	.....	.....	.....	.....	25
2. Achievement .....	15	18	19	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	.....	.....	.....	.....	25
3. Activity .....	16	17	18	.....	19	.....	.....	.....	.....	.....	20	21	.....	22	24	.....	.....	.....	.....	.....	25
4. Advancement .....	10	11	12	15	.....	.....	16	17	19	.....	.....	.....	.....	20	21	22	.....	23	24	.....	25
5. Authority .....	10	.....	.....	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	.....
6. Company policies and practices .....	9	10	13	14	17	.....	.....	18	.....	19	.....	.....	.....	.....	20	22	23	24	.....	.....	25
7. Compensation .....	8	12	14	16	17	18	19	.....	.....	20	.....	.....	21	.....	22	23	.....	24	.....	.....	25
8. Co-workers .....	12	16	18	.....	19	.....	.....	.....	20	21	22	.....	.....	23	.....	24	.....	.....	.....	.....	25
9. Creativity .....	10	15	17	.....	.....	18	.....	19	.....	.....	.....	20	.....	.....	21	.....	20	23	24	.....	25
10. Independence .....	13	15	.....	16	.....	17	.....	18	.....	.....	.....	20	.....	.....	21	22	23	24	.....	.....	25
11. Moral values .....	14	17	.....	18	19	.....	.....	20	.....	.....	21	22	23	.....	24	.....	.....	.....	.....	.....	25
12. Recognition .....	5	.....	12	15	.....	16	19	.....	.....	.....	.....	.....	.....	20	21	23	24	.....	.....	.....	25
13. Responsibility .....	10	13	17	.....	18	.....	.....	19	.....	.....	20	.....	.....	21	.....	22	23	.....	24	.....	25
14. Security .....	14	18	.....	.....	19	.....	.....	20	.....	21	22	23	.....	.....	24	.....	.....	.....	.....	.....	25
15. Social service .....	19	.....	.....	.....	20	.....	21	22	23	.....	.....	.....	24	.....	.....	.....	.....	.....	.....	.....	25
16. Social status .....	11	12	13	15	.....	16	17	.....	18	.....	19	.....	.....	20	.....	21	22	23	24	.....	25
17. Supervision—human relations .....	8	11	15	16	17	18	19	.....	.....	.....	.....	20	22	23	.....	.....	24	.....	.....	.....	25
18. Supervision—technical .....	6	13	15	16	17	18	.....	19	.....	.....	.....	20	21	23	.....	24	.....	.....	.....	.....	25
19. Variety .....	8	.....	.....	12	14	17	18	.....	19	.....	.....	20	.....	21	.....	.....	22	23	24	.....	25
20. Working conditions .....	10	11	13	14	17	18	19	.....	.....	.....	.....	.....	20	21	.....	22	23	24	.....	.....	25
21. General satisfaction .....	55	63	64	71	73	75	76	77	78	79	81	82	83	84	87	89	93	.....	94	95	100
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles



## FULL-TIME NURSES

(N=419)

**Job description.** D.O.T. 075.378 (Professional nurse, general duty). Includes persons meeting the educational, legal, and training requirements to practice as professional nurses, as required by a State board of nursing.

**Administration.** Questionnaires were administered by mail. Completed questionnaires were received from 81% of the total group.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	191	46	male .....	0	0
26 to 35 .....	75	18	female .....	419	100
36 to 45 .....	48	11	<b>Tenure in present occupation</b>		
46 to 55 .....	55	13	(years since original RN license)		
56 to 65 .....	35	8	1 year or less .....	62	15
66 and over .....	2	.5	2 to 5 years .....	169	40
<b>Education</b>			6 to 10 years .....	33	8
diploma program .....	371	89	11 to 20 years .....	42	10
bachelors degree program .....	45	11	21 to 30 years .....	49	12
graduate study .....	3	1	31 years and over .....	51	12

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.56	3.65	.90	1.17
2. Achievement .....	20.39	2.95	.84	1.18
3. Activity .....	20.27	2.60	.87	.95
4. Advancement .....	15.77	4.38	.93	1.12
5. Authority .....	19.06	2.68	.85	1.06
6. Company policies & practices .....	16.38	4.53	.89	1.52
7. Compensation .....	15.14	4.58	.89	1.55
8. Co-workers .....	20.68	3.13	.86	1.19
9. Creativity .....	17.71	3.77	.89	1.26
10. Independence .....	18.97	3.08	.86	1.17
11. Moral values .....	20.98	2.40	.71	1.30
12. Recognition .....	17.80	3.90	.92	1.09
13. Responsibility .....	19.91	2.60	.76	1.27
14. Security .....	19.94	2.65	.64	1.58
15. Social service .....	21.51	2.90	.91	.86
16. Social status .....	17.81	2.69	.74	1.37
17. Supervision—human relations .....	18.28	4.65	.91	1.43
18. Supervision—technical .....	18.05	4.21	.87	1.50
19. Variety .....	18.85	3.50	.86	1.33
20. Working conditions .....	19.34	4.28	.91	1.28
21. General satisfaction .....	75.40	7.99	.82	3.44

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization	6	11	15	16	17	18	19							20		21		22	23	24	25	
2. Achievement	10	15	17	18		19						20			21		22	23	24		25	
3. Activity	10	16	17	18		19									20		21	22	24		25	
4. Advancement	5	8	9	10	11	12	13	14		15	16	17	18		19						20	23
5. Authority	10	14	15	16	17			18	19								20		21	23	25	
6. Company policies and practices	6	8	9	11		12	13	14	15	16		17	18		19			20	21	23	25	
7. Compensation	5	7	8	10	11		12		13	14		15	16	17	18	19			20	21	24	
8. Co-workers	10	14	16	18	19						20		21		22		23		24		25	
9. Creativity	6	10	12	13	14	15	16		17		18		19					20	21	23	25	
10. Independence	9	13	14	15	16		17	18			19					20		21	22	24	25	
11. Moral values	14	16	17	18	19					20			21			22		23	24		25	
12. Recognition	5	9	11	13	14	15	16	17		18		19						20	21	23	25	
13. Responsibility	10	15	16	17	18		19							20			21		22	24	25	
14. Security	11	15	16	17		18			19					20		21		22	23	24	25	
15. Social service	9	17	19						20			21		22	23		24				25	
16. Social status	9	13	14		15		16		17			18			19				20	21	23	
17. Supervision—human relations	5	9	11	13	14	15	16	17	18		19				20	21	22	23	24		25	
18. Supervision—technical	5	9	12	13	14	15	16	17		18		19				20	21	22	23	24	25	
19. Variety	8	11	13	15	16	17		18			19				20			21	22	23	25	
20. Working conditions	5	10	12	14	16	17	18	19						20	21		22	23	24		25	
21. General satisfaction	56	62	65	67	69	70	71	72	73	74	75	76	77	78	79	80	81	82	85	89	96	
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	

Percentiles

## PART-TIME NURSES

(N = 293)

**Job description.** D.O.T. 075.378 (Professional nurse, general duty). Persons meeting the educational, legal, and training requirements to practice as professional nurses, as required by a State board of nursing. These nurses work 35 hours or less per week.

**Administration.** Questionnaires were administered by mail. Completed questionnaires were received from 81% of the total group.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	42	14	male .....	0	0
26 to 35 .....	127	43	female .....	293	100
36 to 45 .....	82	28	<b>Tenure in present occupation</b>		
46 to 55 .....	29	10	(years since original RN license)		
56 to 65 .....	6	2	1 year or less .....	3	1
66 and over .....	0	0	2 to 5 years .....	71	24
<b>Education</b>			6 to 10 years .....	66	23
diploma program .....	259	88	11 to 20 years .....	94	32
Bachelors degree program ..	31	11	21 to 30 years .....	37	13
graduate study program .....	2	1	31 years and over .....	10	3

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.45	3.71	.91	1.14
2. Achievement .....	20.22	3.00	.87	1.08
3. Activity .....	20.35	2.33	.87	.84
4. Advancement .....	16.14	4.08	.92	1.14
5. Authority .....	18.67	2.59	.82	1.09
6. Company policies & practices	15.99	4.58	.90	1.47
7. Compensation .....	13.94	4.56	.88	1.61
8. Co-workers .....	20.21	3.12	.86	1.16
9. Creativity .....	17.05	3.63	.88	1.27
10. Independence .....	18.82	2.77	.85	1.07
11. Moral values .....	20.65	2.76	.80	1.24
12. Recognition .....	17.61	4.04	.94	.98
13. Responsibility .....	19.44	2.63	.80	1.17
14. Security .....	19.04	3.29	.78	1.56
15. Social service .....	21.35	2.78	.91	.84
16. Social status .....	17.84	2.86	.83	1.17
17. Supervision—				
human relations .....	18.52	4.25	.89	1.39
18. Supervision—technical .....	18.37	3.86	.87	1.41
19. Variety .....	18.93	2.92	.78	1.38
20. Working conditions .....	19.81	3.83	.92	1.10
21. General satisfaction .....	74.74	8.53	.86	3.16

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization .....	7	11	14	16	17	.....	18	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25	
2. Achievement .....	8	15	17	18	.....	.....	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	24	.....	25
3. Activity .....	10	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
4. Advancement .....	5	8	10	11	12	13	14	.....	15	.....	16	17	.....	18	.....	19	.....	.....	.....	.....	20	24
5. Authority .....	10	14	15	.....	16	.....	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	25
6. Company policies and practices .....	5	7	9	10	11	12	13	14	.....	15	16	17	.....	18	19	.....	.....	.....	.....	20	21	25
7. Compensation .....	4	6	7	8	9	10	11	.....	12	.....	13	14	.....	15	16	17	18	19	.....	20	24	
8. Co-workers .....	8	14	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25
9. Creativity .....	7	10	11	13	14	.....	15	.....	16	.....	.....	17	18	.....	19	.....	.....	.....	20	.....	22	25
10. Independence .....	10	14	.....	15	16	17	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	21	25
11. Moral values .....	13	15	17	18	19	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	21	22	.....	23	24	.....	25
12. Recognition .....	7	.....	11	13	14	.....	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	24	25
13. Responsibility .....	8	15	16	17	.....	18	.....	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	25	
14. Security .....	6	12	15	16	.....	17	.....	18	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	23	24	
15. Social service .....	11	18	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	24	.....	.....	.....	.....	25
16. Social status .....	8	12	14	15	.....	.....	16	.....	.....	17	.....	18	.....	.....	19	.....	.....	.....	.....	20	22	24
17. Supervision—human relations .....	5	10	12	14	15	16	.....	17	18	19	.....	.....	.....	.....	20	.....	21	22	23	24	25	
18. Supervision—technical .....	7	10	12	14	15	16	.....	17	18	.....	19	.....	.....	.....	.....	20	.....	21	22	24	25	
19. Variety .....	9	13	15	16	.....	17	.....	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	22	23	24	
20. Working conditions .....	6	11	14	16	.....	18	19	.....	.....	.....	.....	.....	.....	20	21	.....	22	23	24	.....	25	
21. General satisfaction .....	51	61	65	66	68	69	70	72	73	74	75	76	.....	77	78	79	80	82	85	89	94	
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	

Percentiles

## SUPERVISOR NURSES

(N=197)

**Job description.** D.O.T. 075.128 (Head Nurse). Supervises and directs nursing activities and instructs nurses in organized hospital unit. Assigns duties and coordinates nursing services. Evaluates nursing activities.

**Administration.** Questionnaires were administered by mail. Completed questionnaires were received from 81% of the total group.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	25	13	male .....	0	0
26 to 35 .....	58	29	female .....	197	100
36 to 45 .....	47	24	<b>Tenure in present occupation</b>		
46 to 55 .....	37	19	(years since original RN license)		
56 to 65 .....	19	10	1 year or less .....	1	.5
66 and over .....	0	0	2 to 5 years .....	44	22
<b>Education</b>			6 to 10 years .....	30	15
diploma program .....	171	87	11 to 20 years .....	50	25
bachelors degree program ..	19	10	21 to 30 years .....	30	15
graduate study program .....	4	2	31 years and over .....	30	15

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.87	3.18	.87	1.15
2. Achievement .....	19.90	2.96	.84	1.17
3. Activity .....	19.94	2.93	.90	.92
4. Advancement .....	17.46	3.68	.92	1.05
5. Authority .....	19.76	2.41	.78	1.12
6. Company policies & practices ..	16.93	4.50	.90	1.42
7. Compensation .....	15.47	4.69	.89	1.55
8. Co-workers .....	20.33	2.67	.80	1.19
9. Creativity .....	18.41	3.77	.89	1.25
10. Independence .....	18.24	3.18	.85	1.21
11. Moral values .....	20.78	2.58	.81	1.13
12. Recognition .....	17.64	3.99	.94	.98
13. Responsibility .....	19.99	2.81	.82	1.18
14. Security .....	19.54	3.23	.78	1.51
15. Social service .....	21.11	2.70	.87	.99
16. Social status .....	18.27	2.46	.71	1.33
17. Supervision—human relations	18.05	4.86	.92	1.38
18. Supervision—technical .....	18.06	4.26	.87	1.51
19. Variety .....	19.09	2.99	.79	1.38
20. Working conditions .....	19.08	4.29	.93	1.18
21. General satisfaction .....	75.38	6.73	.86	3.29

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	9	13	15	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	24	25
2. Achievement	9	12	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	25
3. Activity	10	12	16	18	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	25
4. Advancement	5	10	11	13	14	.....	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	24
5. Authority	12	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	25
6. Company policies and practices	5	9	10	11	12	13	14	15	16	17	18	.....	19	.....	.....	.....	20	.....	21	22	24
7. Compensation	5	7	9	10	11	.....	.....	12	13	14	15	16	17	18	19	.....	.....	.....	20	22	24
8. Co-workers	11	15	16	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	25
9. Creativity	6	10	13	14	15	16	17	.....	18	19	.....	.....	.....	.....	.....	.....	20	21	22	24	25
10. Independence	8	13	14	.....	15	.....	16	.....	17	18	.....	19	.....	.....	.....	.....	20	.....	21	23	24
11. Moral values	7	15	17	18	19	.....	.....	.....	.....	20	.....	.....	.....	.....	21	.....	22	.....	23	24	25
12. Recognition	5	9	12	13	14	.....	15	16	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	23	25
13. Responsibility	7	14	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	25
14. Security	9	12	14	16	17	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	23	24	25
15. Social service	10	16	18	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	.....	23	.....	24	.....	25
16. Social status	12	14	.....	15	.....	16	.....	17	.....	18	.....	.....	.....	19	.....	.....	.....	.....	20	22	23
17. Supervision—human relations	5	8	10	12	13	15	16	17	18	.....	19	.....	.....	.....	20	21	22	.....	23	24	25
18. Supervision—technical	5	10	11	13	14	15	16	.....	17	18	.....	19	.....	.....	20	.....	21	22	23	24	25
19. Variety	10	12	15	16	.....	17	.....	18	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	23	24
20. Working conditions	5	.....	11	14	16	17	18	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
21. General satisfaction	49	61	65	67	69	71	72	73	.....	74	75	76	77	78	79	80	81	83	85	87	96
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

**SUPERVISOR NURSES**

## SOCIAL WORKERS

(N=166)

**Job description.** D.O.T. 195.108 (Caseworker). Counsels and aids individuals requiring assistance of social service agency. Includes Child Welfare, Family, Medical, and Psychiatric Caseworkers.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	28	17	male .....	57	34
26 to 35 .....	66	40	female .....	109	66
36 to 45 .....	35	21	<b>Tenure in present occupation</b>		
46 to 55 .....	20	12	1 year or less .....	51	31
56 to 65 .....	13	8	2 to 5 years .....	53	32
66 and over .....	3	2	6 to 10 years .....	23	14
<b>Education</b>			11 to 20 years .....	21	13
less than 12 years .....	0	0	21 to 30 years .....	9	5
high school graduate .....	0	0	31 years and over .....	3	2
some college .....	1	1			
college graduate .....	165	99			

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.61	3.27	.89	1.09
2. Achievement .....	19.82	3.07	.82	1.32
3. Activity .....	19.95	2.22	.78	1.05
4. Advancement .....	17.44	4.16	.94	1.01
5. Authority .....	17.21	2.67	.86	1.01
6. Company policies & practices .....	18.28	4.02	.93	1.05
7. Compensation .....	19.08	4.19	.94	1.01
8. Co-workers .....	19.75	2.71	.86	1.03
9. Creativity .....	18.80	3.25	.87	1.17
10. Independence .....	18.92	2.65	.89	.89
11. Moral values .....	21.25	2.57	.88	.91
12. Recognition .....	18.52	3.46	.93	.89
13. Responsibility .....	19.55	2.15	.69	1.19
14. Security .....	20.58	2.40	.84	.95
15. Social service .....	22.01	2.69	.89	.88
16. Social status .....	17.63	2.78	.82	1.19
17. Supervision—				
human relations .....	18.87	3.72	.88	1.27
18. Supervision—technical .....	18.80	3.37	.87	1.23
19. Variety .....	19.16	2.89	.82	1.24
20. Working conditions .....	18.18	4.72	.97	.86
21. General satisfaction .....	77.22	7.54	.84	3.03

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	9	12	15	16	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	21	.....	22	23	24	25
2. Achievement	10	13	15	17	.....	18	.....	19	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	24	25
3. Activity	14	15	16	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	25
4. Advancement	5	9	10	12	14	.....	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	23	25
5. Authority	10	13	14	.....	.....	.....	.....	15	.....	16	.....	17	.....	18	.....	19	.....	.....	20	21	23
6. Company policies and practices	7	9	12	14	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	21	22	24	25
7. Compensation	7	10	12	14	15	17	18	19	.....	.....	.....	.....	.....	.....	20	21	22	23	.....	24	25
8. Co-workers	9	14	16	17	18	.....	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	25
9. Creativity	10	12	14	15	.....	16	17	.....	18	19	.....	.....	.....	.....	.....	.....	20	21	22	24	25
10. Independence	11	14	15	.....	16	17	.....	18	.....	.....	19	.....	.....	.....	.....	.....	.....	20	21	23	25
11. Moral values	12	17	18	19	.....	.....	.....	.....	.....	20	.....	.....	21	22	.....	.....	23	24	.....	.....	25
12. Recognition	7	10	14	.....	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	.....	20	22	23	25
13. Responsibility	11	15	17	.....	18	.....	.....	.....	.....	.....	19	.....	.....	.....	.....	20	.....	21	22	23	24
14. Security	.....	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25
15. Social service	10	18	19	.....	.....	.....	20	.....	.....	21	22	.....	23	.....	.....	24	.....	.....	.....	.....	25
16. Social status	8	13	14	.....	15	.....	.....	16	.....	.....	17	18	.....	.....	19	.....	.....	.....	20	21	24
17. Supervision—human relations	5	12	14	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	25
18. Supervision—technical	9	11	13	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	21	.....	22	23	25
19. Variety	9	12	15	17	.....	.....	18	.....	.....	.....	19	.....	.....	.....	.....	20	.....	21	22	23	25
20. Working conditions	5	9	10	11	14	15	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	22	24	.....	25
21. General satisfaction	58	63	67	69	71	72	74	75	76	.....	77	78	.....	79	80	.....	82	84	85	88	95
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

## SOCIAL WORKERS



## TEACHERS

(N=191)

**Job description.** D.O.T. 092.228. Includes elementary school teachers from kindergarten through grade six in a suburban school system.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Grade</b>		
20-29 .....	113	59	Kindergarten through 3 .....	118	62
30-39 .....	31	16	4 through 6 .....	68	36
40-49 .....	14	7	<b>Tenure in present occupation</b>		
50-59 .....	19	10	0 to 9 years .....	138	72
60 and over .....	9	5	10 to 19 years .....	24	13
<b>Education</b>			20 to 29 years .....	16	8
less than bachelors degree..	14	7	30 and over .....	10	5
bachelors degree .....	164	86			
masters degree .....	10	5			

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	21.08	3.06	.90	.95
2. Achievement .....	21.47	2.35	.79	1.08
3. Activity .....	20.75	2.77	.85	1.09
4. Advancement .....	19.13	3.03	.92	.89
5. Authority .....	18.95	2.58	.83	1.05
6. Company policies & practices	17.60	4.17	.90	1.32
7. Compensation .....	18.92	4.00	.90	1.26
8. Co-workers .....	21.47	2.52	.81	1.11
9. Creativity .....	21.83	2.86	.86	1.07
10. Independence .....	20.52	2.59	.81	1.13
11. Moral values .....	21.42	2.37	.75	1.18
12. Recognition .....	19.46	3.22	.90	1.00
13. Responsibility .....	20.90	2.17	.75	1.09
14. Security .....	20.53	2.74	.74	1.39
15. Social service .....	22.08	2.28	.90	.73
16. Social status .....	18.78	2.47	.79	1.13
17. Supervision—				
human relations .....	21.74	2.83	.84	1.13
18. Supervision—technical .....	21.39	2.61	.81	1.13
19. Variety .....	20.88	2.62	.76	1.29
20. Working conditions .....	20.75	3.71	.91	1.13
21. General satisfaction .....	82.14	7.82	.87	2.77

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization .....	10	15	17	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	24	.....	.....	.....	25	
2. Achievement .....	15	16	18	19	.....	.....	.....	.....	20	.....	21	.....	.....	22	.....	23	.....	24	.....	.....	25	
3. Activity .....	10	15	17	18	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	.....	23	.....	24	.....	25	
4. Advancement .....	9	14	.....	15	16	17	18	19	.....	.....	.....	.....	.....	.....	.....	.....	20	21	22	24	25	
5. Authority .....	12	14	15	.....	16	.....	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	24	25	
6. Company policies and practices .....	5	10	11	12	13	14	15	16	17	.....	18	.....	19	.....	.....	.....	20	21	22	23	25	
7. Compensation .....	6	11	13	14	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	22	24	.....	25	
8. Co-workers .....	13	17	18	.....	19	.....	.....	.....	20	.....	.....	21	22	.....	23	.....	.....	24	.....	.....	25	
9. Creativity .....	12	16	18	19	.....	.....	20	.....	.....	.....	21	.....	22	23	.....	24	.....	.....	.....	.....	25	
10. Independence .....	11	15	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25	
11. Moral values .....	15	17	18	19	.....	.....	.....	.....	20	.....	.....	.....	.....	21	.....	22	23	.....	24	.....	25	
12. Recognition .....	9	13	14	15	17	.....	18	19	.....	.....	.....	.....	.....	.....	.....	20	21	22	23	24	25	
13. Responsibility .....	15	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	.....	21	.....	22	.....	23	.....	24	25	
14. Security .....	11	16	17	18	.....	.....	.....	19	.....	.....	.....	20	.....	21	.....	22	23	.....	23	.....	24	25
15. Social service .....	16	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	.....	22	23	24	.....	.....	.....	.....	25	
16. Social status .....	12	14	15	16	.....	.....	17	.....	18	.....	.....	19	.....	.....	.....	.....	.....	20	21	23	25	
17. Supervision—human relations .....	12	16	18	19	.....	.....	.....	20	.....	21	.....	22	.....	23	.....	.....	24	.....	.....	.....	25	
18. Supervision—technical .....	12	16	18	.....	19	.....	.....	.....	20	.....	21	.....	22	.....	.....	23	.....	.....	24	.....	25	
19. Variety .....	12	16	17	18	.....	.....	19	.....	.....	20	.....	.....	21	.....	22	.....	23	.....	.....	24	25	
20. Working conditions .....	5	12	17	18	19	.....	.....	.....	.....	20	.....	.....	21	.....	22	23	24	.....	.....	.....	25	
21. General satisfaction .....	62	69	71	74	75	76	77	78	79	80	81	83	84	85	86	87	89	90	92	96	100	
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	

Percentiles

TEACHERS

## BOOKKEEPERS

(N=45)

**Job description.** D.O.T. 210.388. Keeps records of financial transactions of establishment. Balances books and compiles reports to show statistics pertinent to operation of business.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	17	38	male .....	15	33
26 to 35 .....	14	31	female .....	30	67
36 to 45 .....	6	13	<b>Tenure in present occupation</b>		
46 to 55 .....	3	7	1 year or less .....	7	16
56 to 65 .....	3	7	2 to 5 years .....	23	51
66 and over .....	0	0	6 to 10 years .....	5	11
<b>Education</b>			11 to 20 years .....	4	9
less than 12 years .....	1	2	21 to 30 years .....	3	7
high school graduate .....	17	38	31 years and over .....	1	2
some college .....	25	56	<b>Employer</b>		
college graduate .....	2	4	Company 1 .....	8	18
			Company 2 .....	34	76
			Company 3 .....	3	7

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.13	4.68	.93	1.24
2. Achievement .....	20.02	3.42	.84	1.35
3. Activity .....	19.69	3.66	.88	1.29
4. Advancement .....	15.96	5.12	.93	1.33
5. Authority .....	17.51	3.41	.80	1.52
6. Company policies & practices .....	17.04	5.09	.88	1.78
7. Compensation .....	15.47	4.85	.91	1.43
8. Co-workers .....	19.13	4.70	.92	1.30
9. Creativity .....	17.27	3.87	.86	1.45
10. Independence .....	19.89	3.09	.78	1.44
11. Moral values .....	21.49	2.68	.79	1.22
12. Recognition .....	17.22	4.59	.95	1.06
13. Responsibility .....	19.29	2.69	.68	1.53
14. Security .....	20.76	2.78	.81	1.23
15. Social service .....	19.87	2.98	.80	1.34
16. Social status .....	18.38	2.95	.86	1.11
17. Supervision— human relations .....	18.73	4.45	.88	1.55
18. Supervision—technical .....	18.89	3.68	.78	1.72
19. Variety .....	18.60	4.30	.87	1.53
20. Working conditions .....	18.49	3.96	.85	1.52
21. General satisfaction .....	74.91	9.68	.84	3.83

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization .....	5	10	11	12	15	17	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25	
2. Achievement .....	7	14	15	17	18	.....	.....	19	.....	.....	.....	.....	20	.....	.....	21	23	.....	24	.....	25	
3. Activity .....	9	10	.....	15	16	17	18	19	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	.....	25	
4. Advancement .....	5	6	9	.....	10	11	12	14	15	.....	.....	16	17	18	.....	19	20	.....	21	24	25	
5. Authority .....	5	10	11	14	15	.....	.....	.....	16	17	.....	18	.....	19	.....	.....	20	.....	.....	21	22	
6. Company policies and practices .....	.....	6	10	12	13	.....	14	.....	15	16	18	.....	.....	19	.....	.....	20	22	24	.....	25	
7. Compensation .....	.....	5	8	9	10	11	12	13	14	15	16	17	18	.....	19	.....	.....	.....	20	21	22	
8. Co-workers .....	.....	5	13	16	17	.....	18	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25	
9. Creativity .....	5	11	.....	12	13	15	.....	16	17	.....	.....	.....	18	19	.....	.....	.....	.....	20	21	22	25
10. Independence .....	10	14	15	16	17	.....	18	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	23	24	25	
11. Moral values .....	.....	14	18	19	.....	.....	.....	.....	20	21	.....	.....	.....	.....	22	23	24	.....	.....	.....	25	
12. Recognition .....	5	8	10	11	13	14	.....	15	16	17	19	.....	.....	.....	.....	.....	20	.....	21	23	25	
13. Responsibility .....	11	14	15	.....	16	17	18	.....	19	.....	.....	.....	.....	20	.....	.....	.....	21	22	23	25	
14. Security .....	14	15	16	17	18	19	.....	.....	.....	.....	.....	.....	20	21	.....	22	.....	23	.....	24	25	
15. Social service .....	.....	12	14	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	21	22	.....	23	24	25	25	
16. Social status .....	.....	13	14	.....	15	.....	16	.....	17	18	.....	.....	19	.....	.....	.....	20	.....	21	24	25	
17. Supervision—human relations .....	8	9	11	13	15	.....	.....	17	18	19	.....	.....	.....	.....	20	.....	21	24	.....	.....	25	
18. Supervision—technical .....	7	11	14	15	16	.....	17	.....	18	19	.....	.....	.....	.....	20	21	22	24	.....	.....	25	
19. Variety .....	8	9	12	13	14	15	16	17	18	.....	19	.....	20	.....	21	.....	22	.....	23	24	25	
20. Working conditions .....	8	9	11	13	16	.....	.....	17	18	.....	.....	19	.....	.....	20	.....	21	23	24	25	25	
21. General satisfaction .....	55	56	59	64	67	69	70	71	72	74	75	77	78	79	80	81	82	84	86	88	96	
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	

Percentiles

## BUSINESS MACHINE OPERATORS

(N=70)

**Job description.** D.O.T. 213.582, 215, 216, 217. Operators of billing machines, adding machines, calculating machines, key punches.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	46	66	male .....	26	37
26 to 35 .....	16	23	female .....	44	63
36 to 45 .....	5	7	<b>Tenure in present occupation</b>		
46 to 55 .....	3	4	1 year or less .....	20	29
56 to 65 .....	0	0	2 to 5 years .....	33	47
66 and over .....	0	0	6 to 10 years .....	10	14
<b>Education</b>			11 to 20 years .....	3	4
less than 12 years .....	4	6	21 to 30 years .....	0	0
high school graduate .....	50	71	31 years and over .....	0	0
some college .....	16	23	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	11	16
			Company 2 .....	55	79
			Company 3 .....	4	6

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.04	3.49	.89	1.18
2. Achievement .....	20.00	3.02	.82	1.29
3. Activity .....	20.17	3.10	.87	1.11
4. Advancement .....	16.14	4.40	.89	1.43
5. Authority .....	17.73	2.78	.82	1.20
6. Company policies & practices .....	16.97	4.00	.84	1.61
7. Compensation .....	14.89	5.29	.94	1.30
8. Co-workers .....	19.53	3.37	.81	1.46
9. Creativity .....	17.63	3.61	.87	1.30
10. Independence .....	18.99	3.37	.83	1.39
11. Moral values .....	20.83	2.47	.75	1.23
12. Recognition .....	17.03	4.50	.93	1.21
13. Responsibility .....	18.67	2.78	.75	1.40
14. Security .....	20.49	2.23	.71	1.21
15. Social service .....	19.97	2.90	.88	1.02
16. Social status .....	17.73	2.75	.77	1.31
17. Supervision—				
human relations .....	19.07	4.02	.88	1.37
18. Supervision—technical .....	19.50	3.54	.80	1.58
19. Variety .....	18.91	4.09	.86	1.55
20. Working conditions .....	17.34	4.70	.90	1.46
21. General satisfaction .....	74.49	9.45	.86	3.55

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	8	12	13	15	16	17	.....	18	19	.....	.....	.....	.....	20	.....	.....	21	22	23	24	25
2. Achievement .....	8	11	16	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	.....	23	24	25
3. Activity .....	8	13	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	25
4. Advancement .....	5	8	.....	10	11	13	.....	14	15	16	17	.....	.....	18	.....	19	.....	.....	20	22	25
5. Authority .....	10	13	.....	14	15	.....	.....	16	17	.....	.....	18	.....	19	.....	.....	.....	.....	20	21	25
6. Company policies and practices .....	6	10	11	12	13	14	.....	15	16	.....	17	.....	18	.....	.....	19	.....	20	21	24	25
7. Compensation .....	.....	5	6	9	.....	10	11	12	13	14	.....	15	16	17	18	19	.....	20	21	23	25
8. Co-workers .....	10	13	14	15	17	.....	18	.....	19	.....	.....	.....	.....	20	.....	21	22	23	.....	24	25
9. Creativity .....	7	10	11	12	15	.....	.....	16	17	.....	.....	18	.....	19	.....	.....	20	.....	21	22	25
10. Independence .....	6	13	14	15	16	17	.....	18	.....	.....	19	.....	.....	.....	20	.....	21	22	23	24	25
11. Moral values .....	15	16	17	.....	18	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	.....	23	24	.....	25
12. Recognition .....	5	8	9	11	13	14	15	.....	16	.....	17	18	19	.....	.....	.....	.....	20	21	24	25
13. Responsibility .....	.....	12	14	15	16	17	.....	.....	18	.....	.....	19	.....	.....	.....	20	.....	.....	21	22	25
14. Security .....	14	17	.....	.....	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	25
15. Social service .....	13	14	15	16	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	.....	24	25
16. Social status .....	11	12	.....	15	.....	.....	.....	16	.....	.....	17	.....	18	19	.....	.....	.....	.....	20	22	25
17. Supervision—human relations .....	7	10	13	14	16	17	.....	18	.....	19	.....	.....	.....	.....	20	21	22	23	24	.....	25
18. Supervision—technical .....	10	12	14	15	16	17	18	.....	19	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25
19. Variety .....	5	10	13	15	16	17	.....	18	.....	19	.....	.....	20	.....	21	.....	22	.....	23	24	25
20. Working conditions .....	6	7	10	11	13	14	15	16	17	18	.....	19	.....	.....	.....	20	21	22	24	25	.....
21. General satisfaction .....	45	58	61	66	67	68	69	70	71	73	75	77	.....	78	80	81	82	84	85	87	92
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

## BUSINESS MACHINE OPERATORS

## OFFICE CLERKS

(N=99)

**Job description.** D.O.T. 209.388. (Office clerk) Performs routine clerical tasks not requiring knowledge of systems or procedure.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	48	48	male .....	21	21
26 to 35 .....	18	18	female .....	77	78
36 to 45 .....	12	12	<b>Tenure in present occupation</b>		
46 to 55 .....	10	10	1 year or less .....	35	35
56 to 65 .....	2	2	2 to 5 years .....	38	38
66 and over .....	0	0	6 to 10 years .....	13	13
<b>Education</b>			11 to 20 years .....	11	11
less than 12 years .....	2	2	21 to 30 years .....	1	1
high school graduate .....	71	71	31 years and over .....	1	1
some college .....	22	22	<b>Employer</b>		
college graduate .....	4	4	Company 1 .....	27	27
			Company 2 .....	57	57
			Company 3 .....	15	15

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	17.75	4.41	.92	1.24
2. Achievement .....	19.56	3.02	.83	1.25
3. Activity .....	19.88	3.12	.87	1.13
4. Advancement .....	14.86	4.97	.94	1.20
5. Authority .....	17.03	3.24	.83	1.34
6. Company policies & practices .....	16.77	4.81	.90	1.51
7. Compensation .....	14.37	5.00	.93	1.35
8. Co-workers .....	19.70	3.40	.85	1.31
9. Creativity .....	17.65	3.67	.82	1.54
10. Independence .....	19.32	3.47	.83	1.41
11. Moral values .....	21.02	2.79	.82	1.20
12. Recognition .....	17.12	4.36	.93	1.18
13. Responsibility .....	18.78	3.12	.82	1.32
14. Security .....	20.03	2.91	.77	1.40
15. Social service .....	19.31	3.31	.86	1.23
16. Social status .....	17.28	2.80	.76	1.37
17. Supervision—				
human relations .....	18.25	4.79	.92	1.32
18. Supervision—technical .....	18.83	4.00	.86	1.51
19. Variety .....	17.93	4.43	.89	1.48
20. Working conditions .....	18.26	4.11	.89	1.40
21. General satisfaction .....	72.89	10.08	.87	3.59

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	5	9	10	12	14	.....	15	16	17	18	.....	19	.....	.....	.....	.....	20	21	23	24	25
2. Achievement	.....	13	14	16	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	24	25
3. Activity	10	13	15	16	17	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
4. Advancement	5	7	8	9	.....	10	11	.....	12	14	.....	15	16	17	18	19	.....	.....	20	23	25
5. Authority	7	12	13	.....	14	.....	.....	15	.....	16	.....	.....	17	.....	18	19	.....	.....	20	23	25
6. Company policies and practices	5	7	9	11	12	13	14	15	16	.....	17	18	.....	19	.....	.....	20	21	22	24	25
7. Compensation	5	6	8	9	.....	10	.....	11	12	13	14	.....	15	16	18	.....	19	.....	20	21	25
8. Co-workers	10	12	14	16	17	18	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	.....	23	24	25
9. Creativity	6	11	12	13	14	15	.....	.....	16	17	18	.....	.....	19	.....	.....	.....	20	22	24	25
10. Independence	9	11	15	16	.....	17	.....	18	19	.....	.....	.....	.....	.....	20	.....	21	22	24	.....	25
11. Moral values	11	15	17	18	.....	.....	19	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	.....	25
12. Recognition	.....	9	10	11	12	14	15	16	.....	17	.....	18	19	.....	.....	.....	.....	20	21	24	25
13. Responsibility	9	12	15	.....	16	.....	17	.....	18	.....	.....	19	.....	.....	.....	.....	20	21	22	24	25
14. Security	11	14	15	17	.....	18	.....	.....	19	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25
15. Social service	5	11	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	22	23	24	25
16. Social status	10	12	13	14	.....	.....	.....	15	16	.....	17	.....	18	.....	.....	19	.....	.....	20	21	24
17. Supervision—human relations	6	8	10	12	14	15	16	17	18	.....	19	.....	.....	.....	20	21	22	23	24	.....	25
18. Supervision—technical	5	10	13	14	15	16	17	18	.....	.....	19	.....	.....	20	.....	.....	21	22	23	24	25
19. Variety	8	9	10	12	13	14	15	16	18	.....	19	.....	.....	.....	20	.....	21	22	23	24	25
20. Working conditions	5	9	12	13	15	16	17	.....	.....	18	.....	19	.....	.....	.....	.....	20	22	23	24	25
21. General satisfaction	47	52	60	61	64	66	68	69	70	71	73	74	75	76	78	79	80	82	83	92	98

1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 99

Percentiles

**OFFICE CLERKS**



## SECRETARIES

(N=118)

**Job description.** D.O.T. 201.368. Schedules appointments, gives information to callers, takes dictation, and otherwise relieves officials of clerical work and minor administrative and business detail.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	49	42	male .....	0	0
26 to 35 .....	18	15	female .....	118	100
36 to 45 .....	23	19	<b>Tenure in present occupation</b>		
46 to 55 .....	13	11	1 year or less .....	18	15
56 to 65 .....	3	3	2 to 5 years .....	48	41
66 and over .....	0	0	6 to 10 years .....	19	16
<b>Education</b>			11 to 20 years .....	25	21
less than 12 years .....	2	2	21 to 30 years .....	4	3
high school graduate .....	77	65	31 years and over .....	3	3
some college .....	37	31	<b>Employer</b>		
college graduate .....	2	2	Company 1 .....	52	44
			Company 2 .....	62	52
			Company 3 .....	4	3

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.53	3.85	.91	1.13
2. Achievement .....	20.73	3.10	.87	1.13
3. Activity .....	20.02	4.01	.92	1.15
4. Advancement .....	16.67	4.80	.94	1.21
5. Authority .....	17.33	3.10	.82	1.30
6. Company policies & practices .....	16.86	5.58	.93	1.50
7. Compensation .....	16.36	5.47	.94	1.40
8. Co-workers .....	20.32	3.50	.88	1.24
9. Creativity .....	19.29	3.46	.88	1.20
10. Independence .....	20.22	3.45	.91	1.03
11. Moral values .....	21.54	2.72	.85	1.07
12. Recognition .....	19.07	4.70	.95	1.01
13. Responsibility .....	19.46	2.90	.76	1.43
14. Security .....	20.80	2.97	.76	1.45
15. Social service .....	20.31	2.87	.91	.86
16. Social status .....	18.00	3.52	.87	1.27
17. Supervision— human relations .....	20.79	3.84	.86	1.46
18. Supervision—technical .....	20.98	3.33	.81	1.44
19. Variety .....	20.30	3.75	.87	1.33
20. Working conditions .....	17.23	5.47	.93	1.49
21. General satisfaction .....	77.64	10.00	.88	3.51

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	5	10	13	15	17	18	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	23	24	.....	25
2. Achievement .....	9	14	16	18	19	.....	.....	.....	.....	.....	20	.....	.....	21	22	.....	23	24	.....	.....	25
3. Activity .....	5	10	14	16	18	.....	19	.....	.....	.....	.....	20	.....	21	22	.....	23	.....	24	.....	25
4. Advancement .....	5	8	9	10	11	13	14	.....	15	16	17	18	.....	19	.....	.....	20	21	22	24	25
5. Authority .....	9	12	13	14	.....	.....	15	.....	.....	16	17	.....	.....	18	19	.....	.....	.....	20	22	24
6. Company policies and practices .....	5	6	9	10	11	12	13	14	15	16	17	18	19	.....	.....	20	21	23	24	.....	25
7. Compensation .....	.....	5	8	9	10	11	13	14	15	17	.....	18	19	.....	.....	20	.....	21	22	24	25
8. Co-workers .....	9	12	15	17	18	.....	19	.....	.....	.....	20	.....	21	.....	.....	22	23	.....	24	.....	25
9. Creativity .....	8	12	14	15	16	17	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	22	24	.....	25
10. Independence .....	.....	14	15	17	18	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	.....	25
11. Moral values .....	9	17	18	19	.....	.....	.....	20	.....	.....	21	.....	22	.....	.....	23	.....	24	.....	.....	25
12. Recognition .....	6	9	11	13	15	16	18	19	.....	.....	.....	.....	20	.....	.....	21	23	24	.....	.....	25
13. Responsibility .....	9	14	15	16	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	25
14. Security .....	9	15	16	18	.....	19	.....	.....	.....	20	.....	21	.....	.....	22	.....	23	.....	24	.....	25
15. Social service .....	9	15	17	.....	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	.....	25
16. Social status .....	5	11	14	15	.....	.....	16	.....	17	.....	.....	18	.....	19	.....	.....	20	21	22	24	25
17. Supervision—human relations .....	6	12	15	17	18	.....	19	.....	.....	20	.....	21	.....	22	23	.....	24	.....	.....	.....	25
18. Supervision—technical .....	7	14	17	.....	18	19	.....	.....	20	.....	21	.....	.....	22	.....	23	.....	24	.....	.....	25
19. Variety .....	7	14	15	17	18	.....	19	.....	.....	20	.....	.....	.....	21	22	23	.....	.....	24	.....	25
20. Working conditions .....	.....	5	8	10	12	13	15	17	.....	.....	18	19	.....	.....	.....	20	21	22	23	24	25
21. General satisfaction .....	39	61	63	68	70	71	72	74	75	77	78	79	80	81	82	83	86	87	90	95	98

Percentiles

SECRETARIES

## STENOGRAPHERS AND TYPISTS

(N=32)

**Job description.** D.O.T. 203.388, 203.588. Takes dictation in shorthand and transcribes dictated material, using typewriter. Performs variety of clerical duties.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	21	66	male .....	0	0
26 to 35 .....	7	22	female .....	32	100
36 to 45 .....	2	6	<b>Tenure in present occupation</b>		
46 to 55 .....	0	0	1 year or less .....	11	34
56 to 65 .....	0	0	2 to 5 years .....	15	47
66 and over .....	0	0	6 to 10 years .....	4	12
<b>Education</b>			11 to 20 years .....	1	3
less than 12 years .....	0	0	21 to 30 years .....	1	3
high school graduate .....	26	81	31 years and over .....	0	0
some college .....	6	19	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	11	34
			Company 2 .....	20	62
			Company 3 .....	1	3

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	17.13	5.32	.97	.96
2. Achievement .....	19.16	2.97	.82	1.26
3. Activity .....	19.50	3.79	.91	1.15
4. Advancement .....	14.25	4.96	.96	1.04
5. Authority .....	16.72	2.52	.77	1.21
6. Company policies & practices .....	16.94	5.04	.91	1.55
7. Compensation .....	15.22	5.28	.94	1.31
8. Co-workers .....	19.59	4.06	.89	1.33
9. Creativity .....	16.88	3.54	.81	1.53
10. Independence .....	19.13	2.62	.81	1.14
11. Moral values .....	21.25	2.11	.75	1.06
12. Recognition .....	16.28	4.68	.94	1.19
13. Responsibility .....	18.03	3.23	.76	1.57
14. Security .....	19.25	2.57	.69	1.44
15. Social service .....	18.91	3.55	.89	1.19
16. Social status .....	17.25	2.78	.81	1.23
17. Supervision—				
human relations .....	17.56	4.40	.90	1.42
18. Supervision—technical .....	18.47	4.16	.86	1.55
19. Variety .....	18.31	4.84	.88	1.70
20. Working conditions .....	18.66	3.83	.81	1.68
21. General satisfaction .....	71.94	9.33	.84	3.69

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization					10	11	13	14	17	18	19				20			21	22	24	25	
2. Achievement			14	16	17	18				19								20	22	23	25	
3. Activity		10	17		18				19						20	21	22		23	24	25	
4. Advancement		5	9				10		11	12	13	14	15		16	18	19		20	21	25	
5. Authority		11	14				15					16	17					18	19		20	22
6. Company policies and practices		7	9	10	11	13	14			16			18	19			20	21	22	23	25	
7. Compensation		7	8	9		10	11	12	13	14	15	17			18	19			20	21	25	
8. Co-workers		12	13	16	17	18	19							20	21		22	23	24		25	
9. Creativity		10	11	12	14		15			16			17		18		19		20	22	24	
10. Independence		13	14	16			18					19					20	21	22	23	25	
11. Moral values			18	19						20		21					22	23			25	
12. Recognition		9			10	12	14			15		16			19		20		21	23	25	
13. Responsibility		12		14		15	16			17	18				19			20	22	23	25	
14. Security			15	16		17		18						19			20	22	23		24	
15. Social service		12	13	14	15	16	17	18	19						20		21		22	23	25	
16. Social status		13				15				16				17	18		19		20	22	23	
17. Supervision—human relations		7	9	14	15				16	17		18	19				20	21	22	23	25	
18. Supervision—technical		10	11	13	15		16		17	18	19				20		21	22	24		25	
19. Variety		6	9	14	15		16		17	18	19				20	21	22		23	24	25	
20. Working conditions		11		14	15		16	17		18			19				20	21			25	
21. General satisfaction		56	61	63	64	66		67	68	69	70	72	73	74	76	77	78	80	81	83	99	
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	

Percentiles

## STENOGRAPHERS AND TYPISTS

## FOOD SERVICE WORKERS (HOSPITAL)

(N=42)

**Job description.** Assists in preparation and serving of food to hospital patients. May clean equipment and assist in cooking and apportioning meals.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	13	31	male .....	19	45
26 to 35 .....	8	19	female .....	23	55
36 to 45 .....	6	14	<b>Tenure in present occupation</b>		
46 to 55 .....	11	26	1 year or less .....	15	36
56 to 65 .....	4	10	2 to 5 years .....	13	31
66 and over .....	0	0	6 to 10 years .....	9	21
<b>Education</b>			11 to 20 years .....	4	10
less than 12 years .....	20	48	21 to 30 years .....	0	0
high school graduate .....	15	36	31 years and over .....	0	0
some college .....	4	10	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	5	12
			Company 3 .....	0	0
			Company 4 .....	27	88

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	16.76	5.57	.91	1.70
2. Achievement .....	18.64	3.99	.85	1.57
3. Activity .....	19.12	3.77	.89	1.24
4. Advancement .....	15.93	5.45	.93	1.42
5. Authority .....	16.93	4.61	.91	1.39
6. Company policies & practices .....	16.45	5.53	.91	1.68
7. Compensation .....	17.21	5.28	.91	1.58
8. Co-workers .....	18.91	5.13	.93	1.38
9. Creativity .....	16.19	4.71	.87	1.69
10. Independence .....	17.31	4.22	.84	1.69
11. Moral values .....	19.41	4.46	.92	1.29
12. Recognition .....	16.81	4.43	.84	1.76
13. Responsibility .....	16.83	4.75	.89	1.60
14. Security .....	19.60	4.08	.84	1.65
15. Social service .....	20.19	4.69	.95	1.04
16. Social status .....	16.71	4.79	.92	1.33
17. Supervision—				
human relations .....	16.57	5.14	.87	1.87
18. Supervision—technical .....	18.12	4.34	.89	1.45
19. Variety .....	17.62	5.27	.92	1.51
20. Working conditions .....	18.10	5.10	.89	1.68
21. General satisfaction .....	70.33	16.31	.95	3.57

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization		5	6	9	11	14	15	16		17	18		19				20	21	22	24	25	
2. Achievement	5		11	15	16		17	18	19							20		21	22	24	25	
3. Activity	7	11	13	14	17		18	19							20			21	22		25	
4. Advancement			9		10		11	13	14	15	17	18		19				20	22	23	25	
5. Authority		5	9	13		14	15		16	17	18			19				20		21	25	
6. Company policies and practices		5	9	10		11	12	13	15	17	18		19				20	22	23	24	25	
7. Compensation	5	8	9		10	13	14	15	16	17	18				20		21	22	23		24	
8. Co-workers		5	11	15	16	17		18	19				20		21		22	23	24		25	
9. Creativity		5	9	11		12	13	14	15		16	17	18	19					20	21	25	
10. Independence	5		10	12	13	14	15	16	17		18	19					20		21	22	25	
11. Moral values	3	5		15	17		18	19					20		21	22		23		24	25	
12. Recognition	7	8	10		11	14		15	16		17		18	19				20	21	23	25	
13. Responsibility	5	7	8	11	13	14		15	16	17	18		19					20	21	22	25	
14. Security	7	9	14	15	16	17	18		19				20	21		22		23	24		25	
15. Social service	5	8	11	15	18	19					20		21	22		23		24			25	
16. Social status		5	7	12	14			15	16		17		18	19				20	21		22	24
17. Supervision—human relations	5	6	9	10	11	12	13	15	16		17	18	19					20	21	22	23	25
18. Supervision—technical	5		11	12	13	15	16	17		18		19					20	21		22	24	25
19. Variety	4		5	11	13	17			18		19							20	21	22	24	25
20. Working conditions	4	5	10	12	13	14	16		17	19				20		21	22		23	24	25	
21. General satisfaction	24	29	44	52	58	64	67	68	69	70	71	74	75	76	79		80	84	86	94	99	

Percentiles

**FOOD SERVICE WORKERS (HOSPITAL)**

## HOUSEKEEPING AIDES

(N=43)

**Job description.** D.O.T. 323.887 (Hospital maid). Cleans hospital wards, rooms, baths, laboratories, offices and halls.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	1	2	male .....	20	46
26 to 35 .....	2	5	female .....	22	51
36 to 45 .....	11	26	<b>Tenure in present occupation</b>		
46 to 55 .....	17	40	1 year or less .....	7	16
56 to 65 .....	11	26	2 to 5 years .....	14	33
66 and over .....	1	2	6 to 10 years .....	13	30
<b>Education</b>			11 to 20 years .....	8	19
less than 12 years .....	26	60	21 to 30 years .....	1	2
high school graduate .....	15	35	31 years and over .....	0	0
some college .....	2	5	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	0	0
			Company 3 .....	0	0
			Company 4 .....	43	100

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	15.63	5.43	.92	1.51
2. Achievement .....	17.84	4.54	.87	1.66
3. Activity .....	19.35	3.28	.86	1.22
4. Advancement .....	12.54	5.19	.94	1.32
5. Authority .....	16.70	3.33	.82	1.42
6. Company policies & practices .....	13.95	4.81	.87	1.77
7. Compensation .....	15.86	5.19	.92	1.51
8. Co-workers .....	18.33	3.35	.69	1.85
9. Creativity .....	15.61	4.35	.82	1.84
10. Independence .....	18.28	4.22	.85	1.61
11. Moral values .....	18.93	3.18	.79	1.47
12. Recognition .....	14.54	5.11	.93	1.39
13. Responsibility .....	17.07	3.77	.82	1.60
14. Security .....	18.28	3.85	.74	1.97
15. Social service .....	19.47	2.67	.73	1.39
16. Social status .....	16.70	3.82	.79	1.77
17. Supervision—				
human relations .....	14.47	5.14	.89	1.69
18. Supervision—technical .....	15.72	4.78	.90	1.51
19. Variety .....	17.12	4.49	.83	1.85
20. Working conditions .....	16.14	4.68	.85	1.79
21. General satisfaction .....	66.07	13.31	.92	3.84

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	5	7	8	9	10	13	14	15	16	17	18	19	20	21	22	25					
2. Achievement	6	7	10	12	15	16	17	18	19	20	21	23	24	25							
3. Activity	6	12	16	17	18	19	20	21	23	24	25										
4. Advancement	5	6	7	8	9	10	11	12	13	14	15	16	17	19	20	25					
5. Authority	10	11	14	15	16	17	18	19	20	21	24										
6. Company policies and practices	5	6	8	10	11	12	13	14	15	16	17	18	19	20	25						
7. Compensation	5	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25				
8. Co-workers	8	10	13	14	15	16	17	18	19	20	21	22	25								
9. Creativity	5	10	11	12	13	14	15	16	17	18	19	20	21	23							
10. Independence	6	7	12	15	16	17	18	19	20	21	22	23	25								
11. Moral values	11	13	14	15	16	17	18	19	20	21	22	24	25								
12. Recognition	5	6	9	10	11	12	13	14	15	16	17	18	19	20	25						
13. Responsibility	8	9	11	12	14	15	16	17	18	19	20	23	25								
14. Security	8	11	13	14	15	16	17	18	19	20	21	22	23	24	25						
15. Social service	13	14	16	17	18	19	20	21	22	23	24	25									
16. Social status	7	9	10	12	13	14	15	16	17	18	19	20	22	25							
17. Supervision—human relations	5	6	8	9	10	11	12	13	14	15	16	18	19	20	21	22	24				
18. Supervision—technical	5	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	25				
19. Variety	5	8	10	14	15	16	17	18	19	20	21	24									
20. Working conditions	6	7	8	10	11	12	14	15	16	17	18	19	20	21	25						
21. General satisfaction	33	35	48	51	54	56	61	63	64	67	68	69	70	73	75	77	78	82	83	92	

Percentiles

## HOUSEKEEPING AIDES



## NURSING ASSISTANTS

(N=45)

**Job description.** D.O.T. 355.878 (nurse aid, hospital attendant). Assists in care of hospital patients, under direction of nursing and medical staff.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	7	16	male .....	27	60
26 to 35 .....	5	11	female .....	18	40
36 to 45 .....	14	31	<b>Tenure in present occupation</b>		
46 to 55 .....	9	20	1 year or less .....	7	16
56 to 65 .....	9	20	2 to 5 years .....	10	22
66 and over .....	0	0	6 to 10 years .....	8	18
<b>Education</b>			11 to 20 years .....	19	42
less than 12 years .....	15	33	21 to 30 years .....	1	2
high school graduate .....	25	56	31 years and over .....	0	0
some college .....	4	9	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	0	0
			Company 3 .....	0	0
			Company 4 .....	45	100

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	20.73	2.91	.86	1.10
2. Achievement .....	21.31	2.29	.82	.97
3. Activity .....	21.42	2.62	.86	.97
4. Advancement .....	18.22	5.20	.96	1.04
5. Authority .....	18.87	2.85	.85	1.09
6. Company policies & practices .....	18.89	4.21	.90	1.33
7. Compensation .....	18.67	4.17	.91	1.26
8. Co-workers .....	20.89	2.70	.85	1.03
9. Creativity .....	19.31	2.91	.74	1.48
10. Independence .....	19.69	3.03	.85	1.17
11. Moral values .....	21.13	2.94	.80	1.30
12. Recognition .....	20.09	3.30	.89	1.08
13. Responsibility .....	20.29	2.56	.85	1.00
14. Security .....	21.60	2.53	.81	1.10
15. Social service .....	22.87	2.10	.90	.68
16. Social status .....	18.56	3.55	.85	1.38
17. Supervision—				
human relations .....	19.91	3.44	.87	1.25
18. Supervision—technical .....	20.84	3.03	.90	.98
19. Variety .....	20.42	2.82	.77	1.36
20. Working conditions .....	20.38	2.91	.85	1.14
21. General satisfaction .....	80.62	9.52	.91	2.85

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization		15	16	17	18	19							20	21	22	23	24				25
2. Achievement	17		18		19						20		21	22			23	24			25
3. Activity		15	19									20	21	22	23	24					25
4. Advancement	6		10	11	13	14	15	16	17	18	19			20	21	22	23	24			25
5. Authority	13			15			16	17	18	19						20		21	22	23	25
6. Company policies and practices	9	10	13	14	15		16	17		18		19	20		21	22		23	24		25
7. Compensation	9	10	12	14	15	16		17	18		19				20		21	23	24		25
8. Co-workers		15	16	18		19						20			21	23	24				25
9. Creativity	11	14	15	16	17			18		19						20	21	22	23	24	25
10. Independence	14			15	16	17	18		19						20		21	23	24		25
11. Moral values		14	17	18	19						20		21	22	23		24				25
12. Recognition	10	13	15	17	18				19				20			21	22	24			25
13. Responsibility	13		16	17	18			19					20		21	22	23		24		25
14. Security		17	18	19						20	21	22	23			24					25
15. Social service					20				21	22	23		24								25
16. Social status	11	12	13	14	15		16	17	18				19			20	21	22	23	24	25
17. Supervision—human relations	12	13		15	17	18			19					20	21	22	23	24			25
18. Supervision—technical		15	16	17	18	19					20		21		22			24			25
19. Variety	13	14	16	17	18		19					20			21	22		23	24		25
20. Working conditions	14	15	16		17	18	19						20		21	22	23	24			25
21. General satisfaction	64	66	67	70	73	74	75	76		77	78	81		82	84	85	88	90	96	97	100
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

## ASSEMBLERS (TOY)

(N=309)

**Job description.** D.O.T. 731.884, 731.887. Assembles toys on assembly line.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	31	10	male .....	0	0
26 to 35 .....	53	17	female .....	291	94
36 to 45 .....	108	35	<b>Tenure in present occupation</b>		
46 to 55 .....	73	24	1 year or less .....	40	13
56 to 65 .....	24	8	2 to 5 years .....	143	46
66 and over .....	0	0	6 to 10 years .....	67	22
<b>Education</b>			11 to 20 years .....	20	6
less than 12 years .....	164	53	21 to 30 years .....	3	1
high school graduate .....	118	38	31 years and over .....	1	0
some college .....	9	3	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	0	0
			Company 3 .....	0	0
			Company 4 .....	309	100

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	18.37	3.68	.84	1.46
2. Achievement .....	19.54	2.62	.77	1.27
3. Activity .....	20.15	2.44	.79	1.13
4. Advancement .....	18.66	4.40	.90	1.41
5. Authority .....	17.52	2.78	.75	1.40
6. Company policies & practices .....	18.70	3.99	.84	1.59
7. Compensation .....	17.54	4.60	.90	1.45
8. Co-workers .....	20.19	2.75	.77	1.31
9. Creativity .....	17.63	3.16	.72	1.67
10. Independence .....	18.25	3.19	.79	1.46
11. Moral values .....	20.34	2.23	.62	1.38
12. Recognition .....	16.79	4.02	.89	1.34
13. Responsibility .....	18.22	2.69	.74	1.37
14. Security .....	18.84	3.44	.78	1.62
15. Social service .....	19.72	2.34	.73	1.21
16. Social status .....	17.66	2.88	.75	1.45
17. Supervision—				
human relations .....	18.91	3.41	.78	1.62
18. Supervision—technical .....	18.71	3.18	.77	1.53
19. Variety .....	18.44	4.73	.88	1.64
20. Working conditions .....	16.11	4.49	.88	1.57
21. General satisfaction .....	73.46	9.25	.86	3.51

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	6	10	13	14	15	16	17	18	---	---	19	---	---	---	---	20	---	---	21	23	25
2. Achievement	10	14	16	17	---	18	---	19	---	---	---	---	---	---	---	20	---	21	22	24	25
3. Activity	13	15	17	---	18	19	---	---	---	---	---	---	---	---	20	21	---	22	23	24	25
4. Advancement	4	8	10	11	12	14	---	15	16	---	17	18	---	19	---	---	---	20	21	22	24
5. Authority	10	12	14	---	---	15	---	---	16	---	17	---	18	---	19	---	---	---	20	21	24
6. Company policies and practices	6	10	12	14	15	16	17	18	---	19	---	---	---	---	20	---	21	22	23	24	25
7. Compensation	5	9	10	11	13	14	15	16	17	18	---	19	---	---	---	---	20	21	22	24	25
8. Co-workers	11	15	16	17	18	---	---	19	---	---	---	---	20	---	---	21	22	23	24	---	25
9. Creativity	8	11	13	14	---	15	16	---	---	17	---	---	18	---	19	---	---	20	21	22	24
10. Independence	7	12	14	---	15	---	16	---	17	18	---	19	---	---	---	---	20	---	21	22	25
11. Moral values	15	16	17	18	---	19	---	---	---	---	---	20	---	---	---	21	---	22	23	24	25
12. Recognition	6	8	11	12	13	14	---	15	---	16	17	18	---	19	---	---	---	---	20	21	24
13. Responsibility	10	13	14	15	---	16	---	17	---	---	18	---	---	19	---	---	---	20	21	22	24
14. Security	7	12	13	15	16	---	17	18	---	19	---	---	---	---	20	---	21	---	22	23	25
15. Social service	12	15	16	17	---	18	---	19	---	---	---	---	---	---	20	---	21	22	24	25	
16. Social status	9	12	14	---	15	---	---	16	---	17	---	18	---	---	19	---	---	---	20	21	24
17. Supervision—human relations	6	13	14	15	---	16	17	18	---	---	19	---	---	20	---	---	21	---	22	24	25
18. Supervision—technical	10	12	14	15	16	---	17	---	18	---	---	19	---	---	---	20	---	21	22	23	25
19. Variety	5	8	10	13	15	16	17	---	18	19	---	---	---	20	---	21	---	22	23	24	25
20. Working conditions	5	7	9	10	11	12	13	14	15	16	---	17	---	18	---	19	---	---	20	22	25
21. General satisfaction	49	57	60	63	65	67	68	70	72	73	74	75	76	77	78	79	80	82	84	87	94
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

ASSEMBLERS (TOY)

## LABORERS

(N=55)

**Job description.** Performs general work in warehouse, office building and in construction. Assists skilled and semi-skilled workers, by doing cleanup work, lifting, pulling, pushing, etc.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	17	31	male .....	55	100
26 to 35 .....	29	53	female .....	0	0
36 to 45 .....	6	11	<b>Tenure in present occupation</b>		
46 to 55 .....	1	2	1 year or less .....	14	25
56 to 65 .....	2	4	2 to 5 years .....	27	49
66 and over .....	0	0	6 to 10 years .....	4	7
<b>Education</b>			11 to 20 years .....	2	4
less than 12 years .....	20	36	21 to 30 years .....	0	0
high school graduate .....	24	44	31 years and over .....	0	0
some college .....	10	18	<b>Employer</b>		
college graduate .....	1	2	Company 1 .....	0	0
			Company 2 .....	52	95
			Company 3 .....	3	5

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	14.98	4.72	.91	1.40
2. Achievement .....	17.73	3.40	.83	1.41
3. Activity .....	18.87	3.02	.82	1.28
4. Advancement .....	14.38	4.59	.91	1.42
5. Authority .....	15.66	3.39	.88	1.15
6. Company policies & practices .....	16.07	4.63	.87	1.70
7. Compensation .....	18.91	3.43	.82	1.46
8. Co-workers .....	18.42	3.79	.89	1.27
9. Creativity .....	15.71	4.69	.90	1.48
10. Independence .....	17.62	4.21	.89	1.42
11. Moral values .....	19.13	2.55	.63	1.54
12. Recognition .....	15.96	4.07	.92	1.19
13. Responsibility .....	16.76	3.34	.80	1.51
14. Security .....	19.86	2.88	.75	1.43
15. Social service .....	18.09	3.66	.91	1.08
16. Social status .....	16.15	3.62	.85	1.42
17. Supervision—				
human relations .....	16.76	4.89	.88	1.67
18. Supervision—technical .....	17.33	3.63	.82	1.53
19. Variety .....	15.07	5.21	.93	1.40
20. Working conditions .....	16.62	4.40	.86	1.64
21. General satisfaction .....	68.36	12.28	.92	3.41

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....		5	8	9	10	11	12	13	14	15	16	.....	17	.....	18	.....	19	.....	.....	20	23
2. Achievement .....	8	11	12	13	14	15	16	17	.....	.....	18	.....	19	.....	.....	.....	.....	20	21	22	23
3. Activity .....	6	11	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	25	.....
4. Advancement .....	.....	5	.....	9	10	.....	11	12	13	.....	14	15	.....	.....	16	18	19	.....	20	21	23
5. Authority .....	.....	9	10	12	13	14	.....	.....	15	.....	.....	16	.....	.....	.....	17	18	19	.....	20	22
6. Company policies and practices .....	.....	6	8	11	12	13	14	.....	15	16	.....	.....	17	.....	18	19	.....	20	21	22	25
7. Compensation .....	9	11	13	15	16	18	.....	.....	19	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	25
8. Co-workers .....	6	10	12	.....	15	16	17	18	.....	.....	.....	19	.....	.....	.....	.....	20	21	22	23	24
9. Creativity .....	.....	5	8	10	11	12	13	.....	14	15	16	17	18	.....	.....	19	.....	20	21	22	24
10. Independence .....	6	8	10	13	14	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	21	23	25
11. Moral values .....	.....	13	15	16	17	.....	.....	.....	18	19	.....	.....	.....	.....	.....	20	.....	21	22	23	25
12. Recognition .....	7	8	9	10	11	12	13	14	.....	15	16	17	.....	18	19	.....	.....	.....	20	21	23
13. Responsibility .....	6	10	12	13	14	.....	.....	15	.....	16	17	.....	18	.....	.....	19	.....	.....	20	21	22
14. Security .....	10	14	15	16	18	.....	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	.....	23	24	25
15. Social service .....	5	10	11	14	15	16	.....	17	.....	18	19	.....	.....	.....	.....	.....	.....	20	21	22	24
16. Social status .....	.....	5	12	13	.....	14	.....	.....	.....	15	.....	16	17	.....	18	.....	.....	19	20	21	23
17. Supervision—human relations .....	5	7	9	10	12	13	14	15	16	.....	17	.....	18	19	.....	.....	20	21	22	24	25
18. Supervision—technical .....	.....	10	11	12	13	14	15	16	17	.....	18	.....	.....	.....	19	.....	.....	20	21	22	25
19. Variety .....	.....	5	7	9	.....	10	11	12	13	15	.....	16	17	.....	18	.....	19	20	21	22	25
20. Working conditions .....	6	7	10	12	.....	13	14	15	16	17	.....	.....	18	.....	19	.....	.....	20	21	23	25
21. General satisfaction .....	39	41	50	54	58	61	63	64	67	68	70	72	73	74	75	76	78	79	81	84	93
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

LABORERS

## PACKERS

(N=102)

**Job description.** Packs finished or wrapped products in cardboard or wooden boxes, cartons, kegs, or other containers preparatory to shipment or storage.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	25	24	male .....	68	67
26 to 35 .....	26	25	female .....	34	33
36 to 45 .....	26	25	<b>Tenure in present occupation</b>		
46 to 55 .....	18	18	1 year or less .....	10	10
56 to 65 .....	6	6	2 to 5 years .....	39	38
66 and over .....	0	0	6 to 10 years .....	28	27
<b>Education</b>			11 to 20 years .....	15	15
less than 12 years .....	47	46	21 to 30 years .....	1	1
high school graduate .....	48	47	31 years and over .....	0	0
some college .....	6	6	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	102	100
			Company 3 .....	0	0

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	17.71	3.97	.89	1.33
2. Achievement .....	19.16	2.96	.80	1.32
3. Activity .....	19.85	2.38	.73	1.23
4. Advancement .....	15.27	4.94	.92	1.40
5. Authority .....	16.81	3.19	.81	1.41
6. Company policies & practices .....	17.08	5.06	.90	1.64
7. Compensation .....	18.95	3.93	.82	1.66
8. Co-workers .....	18.59	4.14	.89	1.37
9. Creativity .....	17.29	3.85	.82	1.62
10. Independence .....	18.86	3.04	.75	1.51
11. Moral values .....	19.96	2.68	.72	1.43
12. Recognition .....	16.84	4.46	.92	1.28
13. Responsibility .....	17.98	2.78	.69	1.53
14. Security .....	20.38	3.32	.80	1.49
15. Social service .....	19.66	2.55	.80	1.15
16. Social status .....	17.52	2.87	.77	1.39
17. Supervision—				
human relations .....	17.05	5.15	.88	1.75
18. Supervision—technical .....	17.71	4.13	.86	1.55
19. Variety .....	18.11	4.26	.85	1.66
20. Working conditions .....	17.42	4.16	.80	1.66
21. General satisfaction .....	72.47	10.40	.87	3.72

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	7	9	10	12	13	15	16	17	18	19	19	19	19	19	19	19	20	21	22	25	
2. Achievement .....	10	12	15	16	17	17	18	18	18	19	19	19	19	19	20	20	21	22	24	25	
3. Activity .....	10	14	16	17	18	19	19	19	19	19	19	19	19	19	20	21	22	24	25		
4. Advancement .....	5	7	8	10	11	12	13	14	14	15	16	17	18	19	19	19	20	21	23		
5. Authority .....	7	11	12	14	14	14	14	14	15	16	16	17	18	19	19	19	20	21	23		
6. Company policies and practices .....	5	7	9	10	11	13	14	15	16	17	18	19	19	19	20	21	22	24	25		
7. Compensation .....	7	11	12	14	15	16	17	18	18	19	19	19	20	20	21	22	23	24	25		
8. Co-workers .....	5	9	13	14	16	17	17	18	18	19	19	19	19	20	20	21	23	24	25		
9. Creativity .....	9	10	11	12	13	14	15	16	16	17	18	19	19	19	20	21	22	24			
10. Independence .....	10	12	14	15	16	17	17	18	18	19	19	19	19	20	20	21	22	23	24		
11. Moral values .....	7	15	16	17	18	18	19	19	19	19	19	19	20	21	22	23	24	25			
12. Recognition .....	5	8	9	11	12	13	14	15	16	17	18	19	19	19	20	21	22	24			
13. Responsibility .....	11	12	13	14	15	16	17	17	17	18	18	19	19	19	20	21	22	23			
14. Security .....	8	12	16	17	18	19	19	19	20	20	21	22	23	24	25						
15. Social service .....	10	14	16	17	18	19	19	19	19	19	19	20	21	22	23	25					
16. Social status .....	9	11	14	15	15	16	16	17	17	18	18	19	19	20	21	25					
17. Supervision—human relations .....	5	7	9	10	11	13	14	15	16	17	18	19	19	20	21	22	23	24	25		
18. Supervision—technical .....	6	9	11	12	14	15	16	17	18	19	19	19	20	21	22	24					
19. Variety .....	5	9	10	13	14	15	16	17	18	19	19	19	20	21	22	23	24				
20. Working conditions .....	5	8	10	13	14	15	16	17	18	19	19	19	20	21	22	24					
21. General satisfaction .....	45	54	58	60	63	65	67	69	70	71	73	74	75	77	79	80	81	83	84	86	93
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

PACKERS



## SMALL EQUIPMENT OPERATORS

(N=46)

**Job description.** D.O.T. 922.883 (Industrial truck operator). Drives gasoline- or electric-powered industrial truck or tractor, equipped with forklift, elevating platform, or trailer hitch.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	1	2	male .....	46	100
26 to 35 .....	20	43	female .....	0	0
36 to 45 .....	14	30	<b>Tenure in present occupation</b>		
46 to 55 .....	9	20	1 year or less .....	4	9
56 to 65 .....	1	2	2 to 5 years .....	18	39
66 and over .....	0	0	6 to 10 years .....	15	33
<b>Education</b>			11 to 20 years .....	9	20
less than 12 years .....	23	50	21 to 30 years .....	0	0
high school graduate .....	16	35	31 years and over .....	0	0
some college .....	6	13	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	44	96
			Company 3 .....	2	4

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	17.87	3.60	.79	1.66
2. Achievement .....	19.24	3.60	.87	1.31
3. Activity .....	19.98	3.42	.87	1.24
4. Advancement .....	14.87	4.16	.87	1.51
5. Authority .....	16.87	2.89	.66	1.69
6. Company policies & practices .....	15.35	4.14	.83	1.73
7. Compensation .....	18.80	4.02	.88	1.40
8. Co-workers .....	18.00	3.93	.82	1.67
9. Creativity .....	16.48	3.57	.73	1.86
10. Independence .....	18.80	3.54	.84	1.42
11. Moral values .....	19.35	3.21	.74	1.65
12. Recognition .....	15.24	4.04	.86	1.53
13. Responsibility .....	17.91	3.39	.81	1.47
14. Security .....	20.30	3.60	.87	1.32
15. Social service .....	18.76	3.76	.88	1.30
16. Social status .....	16.46	3.05	.72	1.61
17. Supervision—				
human relations .....	16.70	3.69	.75	1.86
18. Supervision—technical .....	16.50	3.69	.79	1.69
19. Variety .....	18.17	4.32	.87	1.53
20. Working conditions .....	16.39	4.46	.86	1.67
21. General satisfaction .....	69.94	10.64	.88	3.72

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	5	11	13	14	15	.....	.....	16	.....	17	18	.....	.....	19	.....	.....	.....	20	21	22	25
2. Achievement .....	5	11	14	16	17	.....	18	.....	.....	.....	19	.....	.....	.....	20	.....	21	22	23	24	25
3. Activity .....	5	13	16	17	18	.....	19	.....	.....	.....	.....	20	.....	.....	.....	21	.....	22	23	24	25
4. Advancement .....	6	7	8	9	10	11	12	13	14	.....	15	16	.....	.....	.....	17	18	19	20	21	22
5. Authority .....	10	12	.....	13	14	.....	15	.....	.....	.....	16	.....	17	.....	18	19	.....	20	21	25	.....
6. Company policies and practices .....	7	8	10	11	.....	.....	12	.....	13	14	.....	15	17	.....	18	19	.....	.....	20	21	23
7. Compensation .....	5	10	13	15	16	.....	17	18	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	25
8. Co-workers .....	5	10	13	14	.....	15	16	.....	17	.....	18	.....	.....	19	.....	20	.....	21	22	24	25
9. Creativity .....	7	8	11	12	13	14	.....	15	16	.....	17	.....	.....	18	.....	.....	.....	19	20	21	22
10. Independence .....	5	13	14	15	.....	16	.....	17	.....	18	19	.....	.....	.....	20	.....	21	22	23	24	25
11. Moral values .....	7	14	16	.....	.....	17	.....	18	.....	19	.....	.....	.....	.....	20	21	.....	22	23	24	25
12. Recognition .....	7	9	.....	10	11	.....	12	13	.....	14	.....	15	16	.....	17	19	.....	.....	.....	20	23
13. Responsibility .....	10	12	.....	13	14	15	.....	16	.....	17	18	.....	.....	19	.....	.....	20	21	22	23	25
14. Security .....	5	12	16	17	18	.....	19	.....	.....	.....	20	.....	.....	21	.....	22	23	.....	24	.....	25
15. Social service .....	5	9	14	15	16	17	.....	18	.....	19	.....	.....	.....	.....	20	.....	21	22	23	25	.....
16. Social status .....	7	8	.....	14	.....	.....	.....	.....	15	.....	.....	16	.....	17	.....	18	19	.....	.....	20	23
17. Supervision—human relations .....	10	.....	11	12	13	.....	.....	14	15	.....	16	.....	17	18	19	.....	.....	20	21	23	24
18. Supervision—technical .....	.....	9	11	12	.....	13	.....	.....	15	16	.....	.....	17	18	19	.....	.....	.....	20	21	23
19. Variety .....	5	6	12	13	15	16	17	.....	18	.....	.....	19	.....	.....	.....	.....	20	22	.....	23	25
20. Working conditions .....	.....	7	10	11	.....	12	13	14	15	16	.....	17	18	19	.....	.....	20	21	.....	22	24
21. General satisfaction .....	32	49	59	61	62	63	64	65	66	67	69	70	74	.....	.....	75	78	80	83	85	90
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

## TRUCK DRIVERS

(N=118)

**Job description.** D.O.T. 906.883. Drives truck to destination. May load and unload truck.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	5	4	male .....	118	100
26 to 35 .....	48	41	female .....	0	0
36 to 45 .....	48	41	<b>Tenure in present occupation</b>		
46 to 55 .....	15	13	1 year or less .....	2	2
56 to 65 .....	2	2	2 to 5 years .....	27	23
66 and over .....	0	0	6 to 10 years .....	30	25
<b>Education</b>			11 to 20 years .....	45	38
less than 12 years .....	67	57	21 to 30 years .....	12	10
high school graduate .....	46	39	31 years and over .....	2	2
some college .....	5	4	<b>Employer</b>		
college graduate .....	0	0	Company 1 .....	0	0
			Company 2 .....	100	85
			Company 3 .....	18	15

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	20.22	3.74	.90	1.18
2. Achievement .....	20.34	3.20	.85	1.26
3. Activity .....	21.21	2.39	.81	1.03
4. Advancement .....	16.78	4.70	.92	1.32
5. Authority .....	17.42	2.76	.76	1.35
6. Company policies & practices .....	18.86	4.61	.88	1.63
7. Compensation .....	19.48	4.60	.91	1.37
8. Co-workers .....	20.44	2.76	.78	1.30
9. Creativity .....	17.97	3.80	.84	1.52
10. Independence .....	20.98	2.85	.85	1.12
11. Moral values .....	21.28	2.32	.66	1.35
12. Recognition .....	16.84	4.91	.91	1.45
13. Responsibility .....	19.11	2.71	.66	1.58
14. Security .....	21.75	3.07	.81	1.35
15. Social service .....	20.93	2.30	.80	1.03
16. Social status .....	18.66	3.07	.78	1.46
17. Supervision—				
human relations .....	17.92	5.69	.92	1.60
18. Supervision—technical .....	18.38	4.61	.90	1.49
19. Variety .....	20.31	2.70	.76	1.33
20. Working conditions .....	20.53	3.29	.87	1.20
21. General satisfaction .....	78.25	10.41	.90	3.36

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization	5	12	15	17	18	19					20			21		22		23	24		25
2. Achievement	10	13	15	17	18	19						20		21	22			23	24		25
3. Activity	14	17	18	19							20		21		22		23	24			25
4. Advancement	5	6	9	10	12	14	15	16		17		18		19				20	21	23	25
5. Authority	9	13	14			15		16			17		18			19			20	21	23
6. Company policies and practices	5	8	11	14	15	16	17		18	19		20			21		22	23	24		25
7. Compensation	5	9	12	14	16	18		19				20		21		22	23	24			25
8. Co-workers	12	15	16	17	18	19						20		21			22	23		24	25
9. Creativity	5	10	13	15		16			17		18		19				20		21	23	25
10. Independence	12	15	17	18	19					20			21		22	23		24			25
11. Moral values	14	17	18	19				20					21		22		23		24		25
12. Recognition	5	7	9	10	12	13	14	15		16	17	18		19			20	21	22	24	25
13. Responsibility	11	13	15	16	17			18			19				20			21	22	23	24
14. Security	9	16	18		19		20			21		22		23		24					25
15. Social service	14	17	18	19							20			21			22	23	24		25
16. Social status	10	12	14		15	16	17	18			19					20		21		22	25
17. Supervision—human relations		6	8	11	12	14	15	16	17	18	19			20	21	22	23	24			25
18. Supervision—technical	5	9	11	12	14	15	16	17	18		19				20	21	22	23		24	25
19. Variety	8	15	17		18		19					20			21		22		23	24	25
20. Working conditions	6	13	16	17	18	19					20		21		22		23		24		25
21. General satisfaction	47	60	64	67	70	71	72	75	76	78	79	80	82	83	84	85	86	88	90	96	97

Percentiles

## WAREHOUSEMEN

(N=205)

**Job description.** D.O.T. 922.887 (Laborer, stores; stock boy). Receives, stores, ships, and distributes materials, tools, equipment, and products.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	71	35	male .....	205	100
26 to 35 .....	70	34	female .....	0	0
36 to 45 .....	40	20	<b>Tenure in present occupation</b>		
46 to 55 .....	11	5	1 year or less .....	49	24
56 to 65 .....	10	5	2 to 5 years .....	94	46
66 and over .....	0	0	6 to 10 years .....	21	10
<b>Education</b>			11 to 20 years .....	21	10
less than 12 years .....	61	30	21 to 30 years .....	3	1
high school graduate .....	115	56	31 years and over .....	2	1
some college .....	19	9	<b>Employer</b>		
college graduate .....	4	2	Company 1 .....	0	0
			Company 2 .....	133	65
			Company 3 .....	72	35

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	16.13	4.76	.89	1.58
2. Achievement .....	18.90	3.12	.77	1.50
3. Activity .....	20.32	2.31	.81	1.00
4. Advancement .....	13.85	5.13	.93	1.33
5. Authority .....	16.68	3.20	.80	1.44
6. Company policies & practices	16.58	4.78	.87	1.74
7. Compensation .....	18.96	4.05	.89	1.34
8. Co-workers .....	18.52	3.52	.81	1.54
9. Creativity .....	15.76	4.23	.88	1.61
10. Independence .....	18.92	3.24	.83	1.36
11. Moral values .....	20.30	2.82	.77	1.37
12. Recognition .....	15.29	4.85	.93	1.27
13. Responsibility .....	17.35	3.20	.76	1.56
14. Security .....	21.07	2.92	.80	1.32
15. Social service .....	18.93	3.04	.87	1.11
16. Social status .....	17.00	3.28	.79	1.52
17. Supervision—				
human relations .....	16.60	5.18	.90	1.61
18. Supervision—technical	17.08	4.42	.88	1.56
19. Variety .....	16.51	4.92	.90	1.55
20. Working conditions .....	16.93	4.48	.86	1.68
21. General satisfaction .....	70.33	11.11	.89	3.67

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	5	7	9	10	11	12	13	14	15	16	17	18	19	20	21	23	25				
2. Achievement .....	7	13	15	16	17	18	19	20	21	22	24	25									
3. Activity .....	11	16	18	19	20	21	22	23	24	25											
4. Advancement .....	6	8	9	10	11	12	13	14	15	16	17	18	19	20	21	24					
5. Authority .....	7	10	12	13	14	15	16	17	18	19	20	21	22	23	24	25					
6. Company policies and practices .....	5	8	11	12	13	14	15	16	17	18	19	20	21	22	23	25					
7. Compensation .....	6	9	12	14	17	18	19	20	21	22	23	24	25								
8. Co-workers .....	9	11	13	14	15	16	17	18	19	20	21	22	24	25							
9. Creativity .....	5	8	9	10	11	12	13	14	15	16	17	18	19	20	21	24					
10. Independence .....	9	12	14	15	16	17	18	19	20	21	22	24	25								
11. Moral values .....	9	14	16	17	18	19	20	21	22	23	24	25									
12. Recognition .....	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24				
13. Responsibility .....	9	11	12	14	15	16	17	18	19	20	21	24	25								
14. Security .....	8	16	17	18	19	20	21	22	23	24	25										
15. Social service .....	8	12	14	16	17	18	19	20	21	23	25										
16. Social status .....	6	10	12	13	14	15	16	17	18	19	20	21	24	25							
17. Supervision—human relations .....	5	7	9	10	11	12	13	15	16	17	18	19	20	21	22	24	25				
18. Supervision—technical .....	5	8	10	12	13	14	15	16	17	18	19	20	21	23	25						
19. Variety .....	4	6	9	10	12	13	14	15	16	17	18	19	20	21	22	24					
20. Working conditions .....	5	8	10	11	12	13	14	15	16	17	18	19	20	21	22	24					
21. General satisfaction .....	40	52	55	58	61	62	64	67	68	69	70	71	73	75	77	78	79	81	83	88	94
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

WAREHOUSEMEN

## EMPLOYED DISABLED

(N=355)

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Education</b>		
18 to 25 .....	23	6	less than 12 years .....	98	28
26 to 35 .....	122	34	high school graduate .....	136	38
36 to 45 .....	107	30	some college .....	71	20
46 to 55 .....	72	20	college graduate .....	47	13
56 to 65 .....	31	9	<b>Occupation</b>		
66 and over .....	0	0	unskilled blue collar .....	82	23
<b>Disability</b>			skilled blue collar .....	69	19
Cardiovascular and			unskilled white collar .....	77	22
systemic .....	57	16	skilled white collar .....	87	24
Orthopedic .....	117	33	professional .....	38	11
Neurological .....	43	12	<b>Tenure in present occupation</b>		
Neuropsychiatric and			1 year or less .....	21	6
mental retardation .....	53	15	2 to 5 years .....	72	20
Visual and hearing .....	32	9	6 to 10 years .....	120	34
Respiratory .....	39	11	11 to 20 years .....	90	25
Others .....	14	4	21 to 30 years .....	38	11
<b>Sex</b>			31 years and over .....	11	3
male .....	289	81			
female .....	65	18			

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	18.94	4.31	.93	1.17
2. Achievement .....	20.14	3.13	.85	1.22
3. Activity .....	20.57	2.72	.86	1.03
4. Advancement .....	16.36	5.14	.94	1.27
5. Authority .....	17.99	3.33	.88	1.17
6. Company policies & practices .....	17.52	4.67	.92	1.32
7. Compensation .....	18.04	4.66	.92	1.34
8. Co-workers .....	20.07	2.87	.86	1.08
9. Creativity .....	18.52	4.33	.92	1.26
10. Independence .....	19.28	3.41	.89	1.15
11. Moral values .....	20.99	2.74	.82	1.15
12. Recognition .....	18.12	4.26	.93	1.10
13. Responsibility .....	19.27	3.32	.83	1.36
14. Security .....	19.85	3.86	.85	1.49
15. Social service .....	20.25	3.04	.89	.99
16. Social status .....	17.45	3.37	.84	1.33
17. Supervision—				
human relations .....	18.36	4.55	.91	1.40
18. Supervision—technical .....	18.33	4.35	.91	1.34
19. Variety .....	19.46	3.68	.87	1.35
20. Working conditions .....	18.96	4.47	.93	1.14
21. General satisfaction .....	75.85	11.06	.91	3.30

MSQ Scale	Percentiles																					
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	
1. Ability utilization	5	9	12	14	16	17	18	19	.....	.....	.....	.....	.....	.....	20	21	22	23	24	.....	25	
2. Achievement	10	14	15	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25
3. Activity	12	15	17	18	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	21	22	23	24	.....	.....	25
4. Advancement	4	6	9	10	11	12	13	14	15	16	17	18	.....	19	.....	.....	.....	.....	20	22	24	25
5. Authority	9	11	13	14	.....	15	16	.....	17	.....	18	19	.....	.....	.....	.....	.....	20	.....	21	23	25
6. Company policies and practices	6	8	10	11	13	14	15	16	17	18	.....	19	.....	.....	.....	.....	.....	20	21	23	24	25
7. Compensation	5	9	10	11	13	15	16	17	18	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	25
8. Co-workers	9	14	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	.....	20	.....	21	22	.....	23	24	25
9. Creativity	8	9	11	13	14	16	17	.....	18	.....	19	.....	.....	.....	20	.....	21	22	24	.....	.....	25
10. Independence	9	13	15	.....	16	17	.....	18	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
11. Moral values	13	16	17	18	.....	19	.....	.....	.....	20	.....	.....	.....	.....	21	.....	22	.....	23	24	.....	25
12. Recognition	6	9	11	13	14	15	16	17	18	.....	19	.....	.....	.....	.....	.....	.....	20	21	23	24	25
13. Responsibility	10	12	14	15	16	17	18	.....	.....	19	.....	.....	.....	.....	20	.....	.....	21	22	23	24	25
14. Security	7	12	14	15	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	21	.....	22	23	.....	24	25
15. Social service	10	14	15	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	24	.....	25
16. Social status	7	11	13	14	.....	.....	15	.....	16	.....	17	.....	18	.....	19	.....	.....	.....	20	21	22	25
17. Supervision—human relations	6	9	11	13	14	15	16	17	.....	18	19	.....	.....	.....	20	21	22	.....	23	24	.....	25
18. Supervision—technical	5	9	11	13	14	15	16	17	18	.....	19	.....	.....	.....	20	.....	.....	21	22	23	24	25
19. Variety	7	11	14	15	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	.....	21	22	.....	23	24	25
20. Working conditions	5	9	12	14	15	17	18	.....	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	.....	25
21. General satisfaction	47	55	59	63	66	69	71	73	74	75	76	77	78	79	80	82	84	86	90	93	98	.....
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99	.....

Percentiles

EMPLOYED DISABLED



## EMPLOYED NON-DISABLED

(N=380)

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Occupation</b>		
18 to 25 .....	29	8	unskilled blue collar .....	60	16
26 to 35 .....	103	27	skilled blue collar .....	109	29
36 to 45 .....	122	32	unskilled white collar .....	79	21
46 to 55 .....	77	20	skilled white collar .....	102	27
56 to 65 .....	42	11	professional .....	25	7
65 and over .....	6	2	<b>Tenure in present occupation</b>		
<b>Education</b>			1 year or less .....	9	2
less than 12 years .....	107	28	2 to 5 years .....	65	17
high school graduate .....	165	43	6 to 10 years .....	85	22
some college .....	61	16	11 to 20 years .....	151	40
college graduate .....	46	12	21 to 30 years .....	49	13
<b>Sex</b>			31 years and over .....	21	6
male .....	304	80			
female .....	72	19			

## Summary Statistics

Scale	Mean	Standard Deviation	Hoyt Reliability Coefficient	Standard Error of Measurement
1. Ability utilization .....	19.78	3.59	.91	1.08
2. Achievement .....	20.67	2.81	.86	1.05
3. Activity .....	20.86	2.65	.87	.96
4. Advancement .....	16.80	4.68	.94	1.10
5. Authority .....	18.50	3.16	.89	1.05
6. Company policies & practices .....	17.74	4.45	.92	1.28
7. Compensation .....	18.67	3.92	.92	1.13
8. Co-workers .....	20.42	2.80	.87	1.02
9. Creativity .....	19.29	3.78	.91	1.12
10. Independence .....	19.57	3.95	.87	1.11
11. Moral values .....	21.41	2.57	.81	1.13
12. Recognition .....	18.78	3.81	.93	1.04
13. Responsibility .....	19.87	2.90	.83	1.20
14. Security .....	20.27	3.45	.84	1.37
15. Social service .....	20.47	3.24	.91	.97
16. Social status .....	18.01	2.82	.79	1.29
17. Supervision—				
human relations .....	18.81	4.28	.91	1.31
18. Supervision—technical .....	18.90	3.98	.89	1.35
19. Variety .....	20.04	3.40	.87	1.22
20. Working conditions .....	19.10	4.28	.93	1.13
21. General satisfaction .....	77.86	9.91	.91	3.05

MSQ Scale	Percentiles																				
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
1. Ability utilization .....	9	11	14	16	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
2. Achievement .....	10	15	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	.....	21	22	23	.....	24	.....	25
3. Activity .....	11	16	18	.....	.....	19	.....	.....	.....	.....	.....	.....	20	21	22	.....	23	24	.....	.....	25
4. Advancement .....	5	8	9	10	12	13	14	.....	15	17	18	.....	19	.....	.....	.....	.....	20	21	23	25
5. Authority .....	8	14	.....	.....	15	.....	16	17	.....	18	.....	19	.....	.....	.....	.....	20	21	22	24	25
6. Company policies and practices .....	5	9	10	12	13	14	15	16	17	18	.....	19	.....	.....	.....	20	.....	21	23	24	25
7. Compensation .....	8	10	12	14	15	16	17	18	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	25
8. Co-workers .....	10	15	17	18	19	.....	.....	.....	.....	.....	.....	.....	20	.....	21	.....	22	23	24	.....	25
9. Creativity .....	9	11	14	15	16	17	.....	18	19	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
10. Independence .....	10	14	15	16	17	.....	18	.....	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	25
11. Moral values .....	14	17	18	19	.....	.....	.....	.....	20	.....	.....	.....	21	22	.....	23	.....	24	.....	.....	25
12. Recognition .....	8	10	14	.....	15	16	17	18	.....	19	.....	.....	.....	.....	.....	20	21	22	23	24	25
13. Responsibility .....	10	14	16	17	.....	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	22	.....	23	24	25
14. Security .....	9	13	15	17	18	.....	19	.....	.....	.....	.....	20	.....	21	.....	22	23	.....	24	.....	25
15. Social service .....	9	14	16	17	18	19	.....	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	.....	25
16. Social status .....	10	13	14	.....	.....	15	.....	16	17	.....	18	.....	.....	19	.....	.....	.....	20	21	22	25
17. Supervision—human relations .....	6	9	12	14	15	16	17	18	.....	19	.....	.....	.....	.....	20	21	22	23	24	.....	25
18. Supervision—technical .....	7	10	13	14	15	16	17	18	.....	19	.....	.....	.....	.....	20	21	.....	22	23	24	25
19. Variety .....	9	12	16	17	18	.....	.....	19	.....	.....	.....	.....	20	.....	21	22	.....	23	.....	24	25
20. Working conditions .....	6	10	12	14	16	17	18	19	.....	.....	.....	.....	.....	20	.....	21	22	23	24	.....	25
21. General satisfaction .....	52	61	65	68	70	71	73	74	75	76	78	79	80	81	82	84	85	87	90	94	99
	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99

Percentiles

EMPLOYED NON-DISABLED

## **Section III-C**

### **MSQ Scale Intercorrelations**

## Upper triangle: Full-time Nurses

## Lower triangle: Part-time Nurses

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		68	39	29	43	22	10	22	49	37	36	42	48	24	56	26	21	23	55	17	64
2. Achievement .....	64		45	20	36	26	08	28	46	34	44	43	46	29	72	29	22	25	53	23	64
3. Activity .....	41	55		09	32	13	05	29	27	30	30	14	34	29	46	16	13	18	39	18	45
4. Advancement .....	41	34	24		26	41	31	07	38	26	07	42	35	29	07	32	36	39	29	14	54
5. Authority .....	38	33	30	29		18	00	26	50	42	23	33	61	14	23	35	21	20	37	04	52
6. Company policies and practices .....	36	32	20	46	28		41	12	32	21	27	40	27	37	12	16	41	42	21	32	58
7. Compensation .....	21	24	07	43	15	42		-10	14	04	09	12	10	29	03	12	14	14	05	12	33
8. Co-workers .....	31	33	36	20	31	28	12		28	09	17	27	38	20	21	11	27	26	24	14	38
9. Creativity .....	45	41	29	41	38	42	23	28		42	33	57	63	20	33	29	36	38	54	08	70
10. Independence .....	29	36	31	17	42	14	08	34	40		28	33	48	17	24	27	21	18	32	07	53
11. Moral Values .....	49	63	50	28	32	32	23	37	34	40		25	32	33	41	18	16	18	27	26	48
12. Recognition .....	47	45	32	53	43	49	27	34	50	29	42		50	23	22	27	49	47	41	22	67
13. Responsibility .....	57	54	38	38	64	38	24	48	57	46	47	51		28	30	33	36	34	48	18	70
14. Security .....	36	40	32	44	33	55	37	33	37	18	39	41	49		29	31	23	28	19	18	47
15. Social service .....	53	76	52	24	25	25	17	31	34	33	57	28	44	32		23	13	16	46	16	49
16. Social status .....	26	30	26	37	39	38	18	32	39	35	33	47	40	40	20		13	12	29	11	42
17. Supervision—human relations .....	43	35	25	39	36	48	23	38	41	20	35	55	43	35	19	31		80	20	23	62
18. Supervision—technical .....	44	37	26	42	33	42	23	43	45	25	37	53	43	36	26	29	84		19	21	62
19. Variety .....	49	50	53	32	31	22	13	26	48	34	41	30	38	33	47	26	28	36		11	59
20. Working conditions .....	22	24	24	24	24	37	25	30	24	23	37	29	37	29	23	19	19	25	12		38
21. General Satisfaction .....	65	67	54	60	56	63	45	56	68	50	65	70	74	59	57	56	66	69	54	47	

Note: Decimal points omitted.

## Upper Triangle: Supervisor Nurses

## Lower triangle: Managers

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		64	40	35	56	25	18	31	51	45	50	40	64	42	46	27	20	25	54	24	62
2. Achievement .....	67		47	28	55	48	33	34	55	40	70	47	69	58	59	27	38	38	54	36	74
3. Activity .....	51	75		22	43	28	20	33	29	26	44	25	42	29	48	31	11	18	48	12	50
4. Advancement .....	50	53	46		26	37	31	10	28	25	27	38	30	34	17	34	46	47	28	24	57
5. Authority .....	56	56	48	30		22	14	34	48	43	52	38	61	35	36	42	23	25	47	19	62
6. Company policies and practices .....	52	64	55	60	42		42	25	32	20	37	38	37	56	27	17	54	54	26	42	62
7. Compensation .....	52	44	42	56	34	61		08	19	23	24	35	24	53	21	28	25	31	15	40	52
8. Co-workers .....	37	52	46	36	51	49	24		16	27	31	18	38	23	31	22	24	25	25	26	41
9. Creativity .....	51	65	57	40	51	52	36	43		38	43	51	68	38	27	17	38	41	45	26	63
10. Independence .....	45	61	60	34	47	40	36	47	56		37	33	46	36	20	22	20	25	46	32	58
11. Moral values .....	50	66	66	36	51	45	40	45	64	52		32	58	50	55	31	19	27	41	31	64
12. Recognition .....	49	63	51	58	32	65	51	43	50	46	38		43	44	19	31	45	42	26	33	62
13. Responsibility .....	62	75	67	39	72	57	49	51	62	60	62	49		47	46	27	40	43	51	35	74
14. Security .....	53	56	50	46	58	58	43	56	38	44	47	48	59		37	31	39	41	33	40	67
15. Social service .....	60	72	59	31	52	49	47	38	54	49	68	39	64	43		29	17	21	39	28	52
16. Social status .....	50	61	55	50	47	58	43	47	48	46	56	54	47	45	61		16	19	22	20	45
17. Supervision—human relations .....	36	51	42	35	36	57	38	42	39	40	32	61	55	53	32	36		88	30	40	64
18. Supervision—technical .....	46	54	39	38	33	55	46	36	29	35	33	58	51	46	42	39	79		35	47	70
19. Variety .....	42	54	61	35	31	38	34	39	60	51	56	40	42	24	55	49	28	31		16	56
20. Working conditions .....	18	31	33	23	17	30	26	21	40	30	36	21	28	21	32	29	33	27	36		55
21. General Satisfaction .....	71	84	74	64	66	78	66	62	72	67	71	71	80	66	71	71	66	67	63	45	

Note: Decimal points omitted.

## Upper triangle: Social Workers

## Lower triangle: Teachers

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		71	37	38	28	14	12	16	53	16	30	37	46	20	48	29	29	32	40	26	60
2. Achievement .....	72		50	42	18	17	10	11	57	30	40	48	56	23	55	35	30	44	44	22	65
3. Activity .....	61	68		18	24	20	09	24	39	45	36	30	45	31	36	29	20	29	58	19	54
4. Advancement .....	38	40	33		23	23	25	20	50	22	24	46	49	25	26	35	24	33	30	35	64
5. Authority .....	45	44	43	36		08	26	12	28	32	21	13	41	10	09	56	-02	05	30	10	37
6. Company policies and practices .....	49	44	41	33	38		39	26	20	21	30	36	22	46	25	21	45	38	24	44	55
7. Compensation .....	30	34	33	36	22	38		24	07	01	11	29	20	39	06	23	26	17	06	30	43
8. Co-workers .....	29	42	28	30	31	22	20		08	14	10	37	25	27	12	20	39	30	19	15	46
9. Creativity .....	55	60	47	36	41	50	24	21		37	39	31	63	22	33	41	21	31	53	22	62
10. Independence .....	40	49	47	32	54	29	25	30	52		31	24	47	23	16	49	13	25	46	15	50
11. Moral values .....	52	58	59	27	45	35	32	30	51	53		21	41	41	47	30	16	14	26	24	51
12. Recognition .....	37	50	33	32	48	41	25	39	42	41	42		43	21	27	35	56	47	31	28	63
13. Responsibility .....	53	60	54	32	54	52	30	42	68	58	64	55		26	33	52	34	38	49	24	72
14. Security .....	49	50	42	38	41	50	33	26	50	38	47	46	55		29	23	28	17	19	23	51
15. Social service .....	61	63	57	24	39	38	23	29	53	39	62	36	54	43		15	20	22	31	17	49
16. Social status .....	40	46	46	46	62	37	39	35	32	40	42	43	47	37	37		16	25	31	20	57
17. Supervision—human relations .....	25	30	19	23	24	27	16	48	27	24	23	49	35	29	20	26		67	19	28	57
18. Supervision—technical .....	34	40	25	40	37	35	22	52	29	29	28	50	45	29	29	32	80		37	29	62
19. Variety .....	54	53	57	33	47	39	24	27	60	53	45	34	59	38	46	37	20	25		23	59
20. Working conditions .....	43	38	38	20	24	41	40	18	40	31	38	32	44	36	27	20	25	26	35		52
21. General Satisfaction .....	72	77	69	53	62	66	52	49	70	63	68	64	79	62	65	62	52	59	64	55	

Note: Decimal points omitted.

## Upper triangle: Toy Assemblers

## Lower triangle: Packers

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		66	42	58	46	35	45	18	60	44	30	49	62	44	51	50	42	46	60	35	70
2. Achievement .....	52		58	55	40	44	50	30	60	42	46	58	61	49	61	46	53	57	51	39	76
3. Activity .....	30	53		44	34	43	42	31	41	31	54	30	49	43	55	38	44	43	43	34	63
4. Advancement .....	61	50	21		37	55	62	17	54	17	27	48	53	54	45	40	48	50	45	51	73
5. Authority .....	50	37	24	31		24	20	13	49	35	31	30	59	27	39	52	31	34	31	21	52
6. Company policies and practices .....	47	58	39	56	28		58	34	40	25	38	42	33	58	28	32	62	53	37	49	68
7. Compensation .....	42	50	29	49	22	58		24	37	29	32	45	37	59	32	29	46	43	39	40	66
8. Co-workers .....	09	26	07	20	14	31	16		15	11	36	31	24	32	21	14	44	44	26	36	40
9. Creativity .....	64	65	33	53	50	54	46	27		37	26	51	69	38	56	47	44	51	58	31	69
10. Independence .....	30	34	51	15	36	24	33	03	39		24	31	46	23	38	38	26	28	32	20	48
11. Moral values .....	32	47	35	26	31	58	44	18	36	30		18	32	30	43	23	33	31	32	26	49
12. Recognition .....	43	59	29	58	37	59	37	36	63	15	37		54	42	31	33	61	63	43	46	68
13. Responsibility .....	60	67	47	46	63	47	38	26	63	38	38	51		40	56	51	43	53	45	35	71
14. Security .....	25	49	42	35	33	64	58	17	34	33	39	31	35		34	41	49	50	38	35	63
15. Social service .....	41	58	34	33	32	45	40	23	52	23	39	36	50	46		46	32	33	39	28	61
16. Social status .....	59	56	33	44	67	45	27	24	49	34	35	36	56	41	41		33	31	25	29	57
17. Supervision—human relations .....	44	53	34	65	30	77	46	45	55	24	52	69	42	42	32	43		77	42	44	71
18. Supervision—technical .....	45	55	45	67	28	70	46	41	53	20	53	68	45	42	37	40	88		48	42	69
19. Variety .....	62	42	46	56	44	48	41	05	59	47	32	44	45	27	32	38	45	46		32	65
20. Working conditions .....	30	49	31	51	25	64	46	42	39	29	46	46	41	43	34	37	65	62	28		60
21. General Satisfaction .....	69	73	52	72	55	80	63	37	78	47	61	71	71	56	51	62	79	80	66	65	

Note: Decimal points omitted.

## Upper triangle: Office Clerks

## Lower triangle: Secretaries

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		68	32	53	37	27	14	19	42	28	30	48	52	46	44	57	28	40	53	14	66
2. Achievement .....	65		59	39	47	18	08	34	58	42	55	59	69	63	53	57	38	49	52	21	74
3. Activity .....	35	49		25	58	22	01	33	51	42	37	33	59	40	47	39	35	45	41	14	60
4. Advancement .....	52	51	27		37	52	45	25	41	26	25	53	39	54	39	56	43	51	43	41	70
5. Authority .....	42	36	37	47		25	-03	26	64	50	31	31	66	46	54	55	24	35	49	11	58
6. Company policies and practices .....	40	41	30	46	33		34	25	32	25	25	40	32	34	22	32	57	55	37	43	61
7. Compensation .....	40	44	21	61	29	67		19	01	-04	16	32	05	25	-03	22	24	16	15	25	37
8. Co-workers .....	32	37	25	28	35	41	35		25	34	42	36	28	34	21	28	48	45	18	35	51
9. Creativity .....	63	70	51	55	54	43	39	45		61	44	29	78	50	67	42	38	49	47	11	66
10. Independence .....	49	52	37	50	42	37	40	36	60		38	19	58	40	71	36	41	47	16	16	54
11. Moral values .....	30	42	24	29	34	24	23	31	49	46		28	36	62	34	44	30	40	28	33	58
12. Recognition .....	46	58	23	49	27	37	48	31	56	33	27		39	41	23	50	55	49	27	52	68
13. Responsibility .....	68	66	43	59	56	48	44	51	75	65	41	50		56	66	49	38	42	51	13	71
14. Security .....	59	64	40	57	37	47	57	22	55	45	49	57	56		43	57	40	48	38	26	71
15. Social service .....	57	65	51	51	47	37	37	39	61	50	45	42	69	55		42	30	34	37	04	57
16. Social status .....	58	48	32	55	60	33	42	25	51	38	26	41	51	55	44		31	43	43	31	67
17. Supervision—human relations .....	29	49	31	35	23	22	26	20	35	28	30	52	40	46	32	21		85	19	42	70
18. Supervision—technical .....	40	57	35	45	27	28	41	27	47	37	39	61	45	55	40	32	84		32	33	75
19. Variety .....	66	56	56	55	40	43	40	30	60	52	24	33	62	53	51	52	27	37		13	57
20. Working conditions .....	22	19	14	30	36	15	20	11	17	12	25	12	19	11	22	12	11	11	24		47
21. General Satisfaction .....	72	77	52	76	59	62	64	51	79	69	56	65	79	71	71	63	55	66	69	35	

Note: Decimal points omitted.



## Upper triangle: Truck Drivers

## Lower triangle: Warehousemen

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		63	36	62	39	44	50	43	59	17	32	44	50	37	26	52	46	43	42	60	68
2. Achievement .....	55		57	53	46	56	40	48	62	40	54	58	66	48	50	54	49	51	55	60	77
3. Activity .....	26	43		25	27	29	34	50	28	47	50	29	44	47	56	34	30	39	50	49	58
4. Advancement .....	57	48	27		52	55	38	34	68	18	31	57	48	39	27	56	50	50	33	44	67
5. Authority .....	46	46	36	44		30	30	39	60	30	38	54	54	16	31	72	28	30	28	28	60
6. Company policies and practices .....	34	40	37	52	35		50	35	58	23	36	62	52	50	26	37	76	79	44	62	75
7. Compensation .....	24	29	37	36	24	37		34	40	21	30	33	36	48	41	48	43	49	42	59	61
8. Co-workers .....	28	42	24	29	35	32	29		38	32	45	33	52	32	48	32	42	44	29	52	59
9. Creativity .....	64	57	28	66	53	50	27	32		26	32	65	66	24	41	64	50	47	49	44	73
10. Independence .....	32	43	51	33	34	35	36	26	35		46	37	37	30	36	29	36	35	53	33	48
11. Moral values .....	17	53	52	20	31	42	34	45	29	46		38	43	48	41	29	31	36	47	45	58
12. Recognition .....	45	57	32	64	51	61	28	35	60	26	32		66	35	24	45	67	62	46	40	75
13. Responsibility .....	63	62	36	57	60	49	25	37	78	43	38	60		49	38	54	53	50	58	49	77
14. Security .....	18	35	32	29	24	34	43	30	22	36	40	28	31		32	32	46	53	48	55	60
15. Social service .....	44	65	43	31	44	27	18	31	45	37	40	37	51	25		33	17	25	39	43	46
16. Social status .....	52	54	32	47	61	37	28	39	54	29	32	48	60	23	57		31	32	43	42	66
17. Supervision—human relations .....	24	29	28	56	39	61	29	35	43	16	24	68	38	31	14	33		90	43	57	76
18. Supervision—technical .....	29	41	32	55	39	49	33	37	47	26	33	61	39	29	26	40	82		41	66	79
19. Variety .....	62	57	31	57	40	40	24	24	62	37	20	47	56	25	41	45	31	34		50	65
20. Working conditions .....	35	42	34	52	31	55	36	27	45	34	29	49	43	35	30	39	48	51	41		73
21. General satisfaction .....	66	69	48	77	62	70	51	52	78	50	49	77	75	46	56	66	69	70	68	66	

Note: Decimal points omitted.

Upper triangle: Disabled

Lower triangle: Non-Disabled

MIQ Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Ability utilization .....		73	46	63	53	52	47	25	69	36	40	58	66	35	53	53	44	39	67	35	76
2. Achievement .....	77		62	58	48	53	37	37	69	48	55	68	69	43	69	57	47	45	69	48	81
3. Activity .....	65	75		36	33	28	19	34	48	39	53	37	54	36	55	38	34	31	58	38	58
4. Advancement .....	56	51	42		52	65	50	32	62	41	32	60	62	43	44	56	56	53	54	51	76
5. Authority .....	56	53	43	45		40	35	24	65	39	34	48	67	35	48	62	42	36	55	30	68
6. Company policies and practices .....	47	45	38	59	27		54	40	53	39	37	66	54	47	35	51	62	56	43	54	75
7. Compensation .....	38	36	26	60	31	49		21	33	25	26	46	36	37	26	38	33	30	35	38	57
8. Co-workers .....	44	46	43	39	36	42	24		33	25	33	39	37	35	25	32	45	44	36	37	51
9. Creativity .....	69	66	52	57	57	42	36	37		47	45	66	83	34	58	58	47	39	71	39	79
10. Independence .....	53	54	47	33	51	24	23	35	52		39	48	50	36	38	43	37	38	47	38	60
11. Moral values .....	45	60	58	31	36	30	25	52	40	47		42	46	41	50	40	33	36	45	34	58
12. Recognition .....	66	70	51	56	41	55	41	42	61	47	43		64	40	43	64	62	58	50	52	79
13. Responsibility .....	71	72	59	56	72	45	37	47	77	63	49	61		43	57	54	50	46	64	41	80
14. Security .....	39	44	40	40	31	46	32	37	27	22	37	42	40		33	35	40	39	32	42	58
15. Social service .....	61	70	62	36	54	34	20	37	50	40	54	50	57	35		49	35	30	59	34	63
16. Social status .....	50	48	42	44	54	43	32	37	45	46	41	48	51	30	48		52	46	50	41	71
17. Supervision—human relations .....	43	45	40	48	29	67	34	50	42	26	31	56	46	43	29	27		88	39	45	72
18. Supervision—technical .....	49	50	43	54	37	64	40	51	45	27	36	60	53	45	34	34	83		39	45	68
19. Variety .....	68	68	62	50	60	37	28	46	64	62	53	53	72	33	60	52	35	43		37	73
20. Working conditions .....	37	42	37	41	27	47	33	41	32	33	46	41	37	33	37	42	34	40	39		63
21. General Satisfaction .....	80	82	71	72	63	69	55	62	74	61	62	78	82	57	64	62	67	72	75	58	

Note: Decimal points omitted.

## **Section III-D**

### **MSQ Factor Analyses**

MINNESOTA STUDIES IN VOCATIONAL REHABILITATION

Disabled (N = 277)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization .....	71	35	62	68
2. Achievement .....	78	37	75	78
3. Activity .....	64	19	45	55
4. Advancement .....	50	59	59	63
5. Authority .....	61	33	47	60
6. Company policies and practices .....	34	71	62	64
7. Compensation .....	30	44	29	42
8. Co-workers .....	24	46	27	32
9. Creativity .....	79	34	74	80
10. Independence .....	46	35	34	37
11. Moral values .....	53	29	36	45
12. Recognition .....	50	64	66	71
13. Responsibility .....	75	40	72	78
14. Security .....	33	46	32	37
15. Social service .....	72	19	55	58
16. Social status .....	54	48	52	58
17. Supervision—human relations .....	20	85	78	83
18. Supervision—technical .....	16	84	73	81
19. Variety .....	76	27	65	67
20. Working conditions .....	32	54	40	44
Contribution of factor .....	5.97	4.82	10.79	
Proportion of common Variance .....	.55	.45	1.00	

Non-Disabled (N = 317)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization .....	73	39	69	70
2. Achievement .....	78	38	76	79
3. Activity .....	68	32	56	63
4. Advancement .....	40	62	54	61
5. Authority .....	69	20	51	62
6. Company policies and practices .....	21	78	65	64
7. Compensation .....	22	52	32	43
8. Co-workers .....	40	47	38	44
9. Creativity .....	69	35	60	68
10. Independence .....	68	14	48	53
11. Moral values .....	59	27	42	54
12. Recognition .....	53	57	60	64
13. Responsibility .....	78	38	75	79
14. Security .....	29	49	32	35
15. Social service .....	71	21	55	60
16. Social status .....	56	31	41	48
17. Supervision—human relations .....	16	82	71	75
18. Supervision—technical .....	24	82	73	75
19. Variety .....	78	27	68	67
20. Working conditions .....	35	44	31	38
Contribution of factor .....	6.39	4.59	10.98	
Proportion of common variance .....	.58	.42	1.00	

Note: Decimal points omitted.

<sup>a</sup> Estimated communalities: squared multiple correlation coefficients.

MANUAL FOR THE MINNESOTA SATISFACTION QUESTIONNAIRE

Social Workers (N = 166)

MSQ Scale	Factor			Communality	SMC <sup>a</sup>
	I	II	III		
1. Ability utilization .....	71	-15	-14	55	61
2. Achievement .....	84	-15	-14	74	71
3. Activity .....	51	-15	-34	40	50
4. Advancement .....	39	-34	-27	34	45
5. Authority .....	10	-05	-65	44	45
6. Company policies and practices .....	09	-66	-13	47	47
7. Compensation .....	-09	-53	-23	35	37
8. Co-workers .....	09	-47	-11	24	28
9. Creativity .....	63	-10	-39	56	58
10. Independence .....	29	-12	-54	38	44
11. Moral values .....	39	-19	-33	29	42
12. Recognition .....	40	-56	-09	49	53
13. Responsibility .....	55	-26	-50	61	61
14. Security .....	13	-47	-26	30	42
15. Social service .....	57	-15	-06	36	43
16. Social status .....	22	-23	-65	53	52
17. Supervision—human relations .....	30	-72	15	62	62
18. Supervision—technical .....	43	-56	05	50	57
19. Variety .....	53	-14	-37	44	53
20. Working conditions .....	17	-45	-14	25	31
Contribution of factor .....	3.72	2.91	2.21	8.83	
Proportion of common Variance .....	.42	.33	.25	1.00	

Managers (N = 135)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization .....	57	45	52	61
2. Achievement .....	74	49	78	82
3. Activity .....	72	35	65	69
4. Advancement .....	34	55	42	55
5. Authority .....	61	31	46	63
6. Company policies and practices .....	41	69	65	67
7. Compensation .....	35	55	42	57
8. Co-workers .....	48	39	38	49
9. Creativity .....	72	26	59	65
10. Independence .....	63	30	49	52
11. Moral values .....	78	21	65	64
12. Recognition .....	34	71	61	65
13. Responsibility .....	68	47	69	78
14. Security .....	42	57	50	60
15. Social service .....	75	26	63	71
16. Social status .....	59	40	51	58
17. Supervision—human relations .....	18	79	66	75
18. Supervision—technical .....	18	78	64	72
19. Variety .....	67	17	48	58
20. Working conditions .....	35	21	17	28
Contribution of factor .....	6.23	4.68	10.91	
Proportion of common Variance .....	.57	.43	1.00	

Note: Decimal points omitted.

<sup>a</sup> Estimated communalities: squared multiple correlation coefficients.

MINNESOTA STUDIES IN VOCATIONAL REHABILITATION

Teachers (N = 191)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization	74	-.19	59	64
2. Achievement	76	-.28	66	71
3. Activity	75	-.11	58	60
4. Advancement	40	-.34	28	42
5. Authority	57	-.32	43	57
6. Company policies and practices	54	-.28	38	45
7. Compensation	40	-.20	20	33
8. Co-workers	25	-.55	37	40
9. Creativity	72	-.19	55	64
10. Independence	61	-.23	43	49
11. Moral values	71	-.18	54	58
12. Recognition	44	-.53	47	49
13. Responsibility	73	-.36	67	71
14. Security	59	-.28	42	46
15. Social service	69	-.14	50	56
16. Social status	53	-.34	39	55
17. Supervision—human relations	09	-.84	71	71
18. Supervision—technical	18	-.86	78	76
19. Variety	69	-.14	50	53
20. Working conditions	47	-.20	27	36
Contribution of factor	6.67	3.02	9.69	
Proportion of common Variance	.68	.32	1.00	

Supervisor Nurses (N = 197)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization	74	-.18	58	60
2. Achievement	77	-.36	72	74
3. Activity	60	-.09	37	43
4. Advancement	24	-.50	31	39
5. Authority	70	-.16	52	54
6. Company policies and practices	25	-.84	47	51
7. Compensation	19	-.47	26	40
8. Co-workers	40	-.18	19	28
9. Creativity	55	-.37	44	57
10. Independence	50	-.23	30	38
11. Moral values	72	-.22	56	61
12. Recognition	37	-.51	39	47
13. Responsibility	74	-.35	67	70
14. Security	46	-.52	48	55
15. Social service	61	-.13	39	48
16. Social status	38	-.21	19	32
17. Supervision—human relations	07	-.87	76	82
18. Supervision—technical	13	-.87	77	81
19. Variety	62	-.21	43	50
20. Working conditions	23	-.52	32	39
Contribution of factor	5.23	3.88	9.11	
Proportion of common Variance	.57	.43	1.00	

Note: Decimal points omitted.

<sup>a</sup> Estimated communalities: squared multiple correlation coefficients.

## Full-Time Nurses (N = 419)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization .....	74	-17	57	57
2. Achievement .....	80	-14	68	69
3. Activity .....	56	-05	32	37
4. Advancement .....	20	-57	36	40
5. Authority .....	55	-22	35	47
6. Company policies and practices .....	17	-61	40	44
7. Compensation .....	01	-35	12	27
8. Co-workers .....	34	-20	15	26
9. Creativity .....	58	-43	52	58
10. Independence .....	47	-22	27	34
11. Moral values .....	48	-16	26	32
12. Recognition .....	41	-57	49	51
13. Responsibility .....	63	-40	55	61
14. Security .....	30	-35	21	34
15. Social service .....	72	02	51	59
16. Social status .....	37	-21	18	27
17. Supervision—human relations .....	11	-77	61	67
18. Supervision—technical .....	13	-77	60	68
19. Variety .....	66	-17	46	47
20. Working conditions .....	17	-28	10	20
Contribution of factor .....	4.57	3.14	7.71	
Proportion of common Variance .....	.59	.41	1.00	

## Part-Time Nurses (N = 293)

MSQ Scale	Factor		Communality	SMC <sup>a</sup>
	I	II		
1. Ability utilization .....	39	60	51	55
2. Achievement .....	25	80	70	71
3. Activity .....	16	65	45	46
4. Advancement .....	60	21	40	45
5. Authority .....	44	38	33	47
6. Company policies and practices .....	67	16	48	52
7. Compensation .....	43	10	19	29
8. Co-workers .....	38	37	28	37
9. Creativity .....	52	41	44	51
10. Independence .....	22	48	28	37
11. Moral values .....	30	65	52	53
12. Recognition .....	67	31	55	55
13. Responsibility .....	52	56	59	68
14. Security .....	54	32	40	47
15. Social service .....	09	79	63	64
16. Social status .....	47	27	30	37
17. Supervision—human relations .....	78	15	60	75
18. Supervision—technical .....	74	21	58	74
19. Variety .....	24	60	42	48
20. Working conditions .....	34	25	18	29
Contribution of factor .....	4.52	4.30	8.82	
Proportion of common Variance .....	.51	.49	1.00	

Note: Decimal points omitted.

<sup>a</sup> Estimated communalities: squared multiple correlation coefficients.

MINNESOTA STUDIES IN VOCATIONAL REHABILITATION

Secretaries (N = 118)

MSQ Scale	Factor		Communality	SMC*
	I	II		
1. Ability utilization	71	28	58	66
2. Achievement	61	53	66	69
3. Activity	49	25	31	50
4. Advancement	64	35	53	62
5. Authority	66	10	44	59
6. Company policies and practices	55	23	36	54
7. Compensation	52	34	39	65
8. Co-workers	47	18	25	37
9. Creativity	75	36	69	75
10. Independence	63	26	47	53
11. Moral values	40	33	27	51
12. Recognition	38	62	52	58
13. Responsibility	78	34	73	76
14. Security	56	54	60	69
15. Social service	68	31	56	62
16. Social status	65	19	46	59
17. Supervision—human relations	09	85	74	75
18. Supervision—technical	22	88	82	80
19. Variety	72	21	56	65
20. Working conditions	31	04	10	33
Contribution of factor	6.51	3.52	10.03	
Proportion of common Variance	.64	.36	1.00	

Office Clerks (N = 99)

MSQ Scale	Factor			Communality	SMC*
	I	II	III		
1. Ability utilization	36	-65	14	57	63
2. Achievement	60	-55	19	70	82
3. Activity	62	-21	19	46	53
4. Advancement	17	-61	47	62	70
5. Authority	68	-32	07	57	64
6. Company policies and practices	13	-25	61	45	56
7. Compensation	-20	-36	38	31	39
8. Co-workers	27	-09	48	31	37
9. Creativity	79	-22	17	70	73
10. Independence	74	07	27	63	66
11. Moral values	41	-26	33	34	61
12. Recognition	14	-51	55	58	68
13. Responsibility	78	-35	14	75	78
14. Security	45	-47	34	54	64
15. Social service	77	-18	07	63	69
16. Social status	38	-59	26	56	59
17. Supervision—human relations	30	-01	84	80	82
18. Supervision—technical	43	-11	75	75	83
19. Variety	38	-55	07	45	55
20. Working conditions	-04	-24	59	40	49
Contribution of factor	4.81	2.90	3.40	11.12	
Proportion of common Variance	.43	.26	.31	1.00	

Note: Decimal points omitted.

\* Estimated communalities: squared multiple correlation coefficients.



MANUAL FOR THE MINNESOTA SATISFACTION QUESTIONNAIRE

**Toy Assemblers (N = 309)**

MSQ Scale	Factor		Communality	SMC*
	I	II		
1. Ability utilization	71	-33	62	63
2. Achievement	65	-49	66	67
3. Activity	50	-43	43	53
4. Advancement	50	-55	54	62
5. Authority	63	-13	42	45
6. Company policies and practices	21	-73	58	59
7. Compensation	29	-62	47	54
8. Co-workers	07	-51	27	34
9. Creativity	72	-31	61	65
10. Independence	52	-17	30	29
11. Moral values	34	-36	25	42
12. Recognition	38	-58	48	58
13. Responsibility	77	-29	68	68
14. Security	31	-61	47	52
15. Social service	68	-22	51	54
16. Social status	61	-20	41	46
17. Supervision—human relations	25	-77	65	68
18. Supervision—technical	33	-72	63	69
19. Variety	49	-41	41	51
20. Working conditions	23	-56	37	41
Contribution of factor	4.99	4.76	9.74	
Proportion of common Variance	.51	.49	1.00	

**Truck Drivers (N = 118)**

MSQ Scale	Factor			Communality	SMC*
	I	II	III		
1. Ability utilization	36	29	-54	51	67
2. Achievement	33	57	-49	68	71
3. Activity	15	75	-13	61	58
4. Advancement	41	13	-65	60	63
5. Authority	04	22	-77	65	69
6. Company policies and practices	77	21	-32	74	74
7. Compensation	40	38	-27	38	55
8. Co-workers	24	53	-27	41	54
9. Creativity	33	20	-78	75	76
10. Independence	15	56	-14	35	47
11. Moral values	19	62	-21	47	50
12. Recognition	52	19	-56	62	69
13. Responsibility	34	45	-55	62	70
14. Security	47	52	-08	50	59
15. Social service	02	66	-24	49	56
16. Social status	11	29	-74	65	70
17. Supervision—human relations	87	18	-23	84	86
18. Supervision—technical	87	27	-18	87	88
19. Variety	30	57	-28	50	59
20. Working conditions	54	53	-22	63	69
Contribution of factor	3.93	3.99	3.92	11.84	
Proportion of common Variance	.33	.34	.33	1.00	

Note: Decimal points omitted.

\* Estimated communalities: squared multiple correlation coefficients.

## MINNESOTA STUDIES IN VOCATIONAL REHABILITATION

## Packers (N = 102)

MSQ Scale	Factor		Communality	SMC*
	I	II		
1. Ability utilization .....	28	70	57	66
2. Achievement .....	50	61	63	73
3. Activity .....	26	51	33	60
4. Advancement .....	60	40	52	71
5. Authority .....	09	72	53	69
6. Company policies and practices .....	79	36	74	80
7. Compensation .....	51	38	40	55
8. Co-workers .....	49	00	24	40
9. Creativity .....	43	66	62	69
10. Independence .....	08	57	33	50
11. Moral values .....	49	34	36	50
12. Recognition .....	65	36	55	66
13. Responsibility .....	31	73	63	71
14. Security .....	47	39	37	64
15. Social service .....	35	49	36	46
16. Social status .....	26	67	52	67
17. Supervision—human relations .....	88	25	83	86
18. Supervision—technical .....	85	27	80	84
19. Variety .....	26	66	50	67
20. Working conditions .....	69	24	53	57
Contribution of factor .....	5.28	5.07	10.35	
Proportion of common Variance .....	.51	.49	1.00	

## Warehousemen (N = 205)

MSQ Scale	Factor			Communality	SMC*
	I	II	III		
1. Ability utilization .....	75	17	11	60	58
2. Achievement .....	62	16	50	66	69
3. Activity .....	21	15	62	45	45
4. Advancement .....	56	55	12	63	63
5. Authority .....	56	26	28	45	51
6. Company policies and practices .....	28	58	36	54	59
7. Compensation .....	11	29	46	31	34
8. Co-workers .....	24	25	41	29	34
9. Creativity .....	75	37	14	72	72
10. Independence .....	30	08	57	42	43
11. Moral values .....	14	13	74	58	55
12. Recognition .....	49	63	20	67	69
13. Responsibility .....	75	26	28	71	72
14. Security .....	10	25	51	33	34
15. Social service .....	56	-02	44	52	54
16. Social status .....	63	21	29	52	57
17. Supervision—human relations .....	13	89	15	84	81
18. Supervision—technical .....	20	77	25	70	75
19. Variety .....	66	23	17	52	55
20. Working conditions .....	30	49	32	43	45
Contribution of factor .....	4.54	3.35	3.02	10.90	
Proportion of common Variance .....	.42	.30	.27	1.00	

Note: Decimal points omitted.

\* Estimated communalities: squared multiple correlation coefficients.

## Section IV

# The Minnesota Satisfaction Questionnaire Short-Form

Subsequent to publication of this volume, MSQ items have been edited to remove gender-specific references. The items on the following pages reflect that editing.

## minnesota satisfaction questionnaire

The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with.

On the basis of your answers and those of people like you, we hope to get a better understanding of the things people like and dislike about their jobs.

On the next page you will find statements about your present job.

- Read each statement carefully.
- Decide how satisfied you feel about the aspect of your job described by the statement.

Keeping the statement in mind:

-if you feel that your job gives you more than you expected, check the box under "Very Sat." (Very Satisfied);

-if you feel that your job gives you what you expected, check the box under "Sat." (Satisfied);

-if you cannot make up your mind whether or not the job gives you what you expected, check the box under "N" (Neither Satisfied nor Dissatisfied);

-if you feel that your job gives you less than you expected, check the box under "Dissat." (Dissatisfied);

-if you feel that your job gives you much less than you expected, check the box under "Very Dissat." (Very Dissatisfied).

- Remember: Keep the statement in mind when deciding how satisfied you feel about that aspect of your job.
- Do this for all statements. Please answer every item.

**Be frank and honest.** Give a true picture of your feelings about your present job.

Ask yourself: How satisfied am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

---

**On my present job, this is how I feel about . . .**

	Very Dissat.	Dissat.	N	Sat.	Very Sat.
1. Being able to keep busy all the time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The chance to work alone on the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The chance to do different things from time to time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The chance to be "somebody" in the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The way my boss handles his/her workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The competence of my supervisor in making decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Being able to do things that don't go against my conscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The way my job provides for steady employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The chance to do things for other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. The chance to tell people what to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. The chance to do something that makes use of my abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The way company policies are put into practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. My pay and the amount of work I do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The chances for advancement on this job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. The freedom to use my own judgment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. The chance to try my own methods of doing the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. The working conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The way my co-workers get along with each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. The praise I get for doing a good job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. The feeling of accomplishment I get from the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Very Dissat.	Dissat.	N	Sat.	Very Sat.

## Section IV-B

### Normative Data for the Short-Form MSQ

Details of data collection and questionnaire administration for the following groups:

- Assemblers
- Clerks
- Engineers
- Janitors and Maintenancemen
- Machinists
- Salesmen

These groups were developed by choosing individuals from the Minneapolis and St. Paul city directories who were listed as being employed in one of the six occupational groups. Each individual was telephoned by a member of the Work Adjustment Project staff to verify his job title (in the case of engineers, to determine also whether he was a graduate professional engineer) and to obtain telephone number and address. When lists of names with verified occupation and address information were developed, letters were sent to the listed individuals soliciting their cooperation and describing the Work Adjustment Project and its goals.

Within one week, each listed individual was contacted by telephone to arrange for an interview by a member of the Work Adjustment Project staff. A total of 4,191 individuals were contacted, of which 3,074 (or approximately 75%) agreed to be interviewed, while the remaining 25% refused to participate. A total of 2,858 interviews were completed.

At the completion of an interview, each respondent was asked to participate further in the study by taking a test battery at the University. Those who participated in the testing program were given written interpretations of their test results. Of the 2,858 persons interviewed, 757 (or about 37%) refused to participate in the testing program. Of the remaining 2,101 individuals, complete sets of test data were obtained on 1,460, or approximately two-thirds of the group volunteering to take the tests. The full test battery included measures of abilities, needs, and satisfaction.

As a result of this method of data collection, only job titles are available as descriptions of the groups. An individual was classified in a given group if the job title he gave included the titles listed above.

**ENGINEERS (N=387)**

**Sample Characteristics**

Data source. See page 112.

	N	%		N	%
<b>Age</b>			<b>Tenure in present occupation</b>		
18 to 25 .....	12	3	1 year or less .....	4	1
26 to 35 .....	124	32	2 to 5 years .....	80	21
36 to 45 .....	40	10	6 to 10 .....	81	21
46 to 55 .....	77	20	11 to 20 .....	32	8
56 to 65 .....	37	10	21 to 30 .....	69	18
65 and over .....	0	0	31 years and over .....	21	5
			<b>Training for present occupation</b>		
<b>Disabling condition</b>			on the job training .....	62	16
none .....	354	91	company training program .....	84	22
single disabling condition .....	30	8	apprenticeship .....	15	4
multiple disabling condition .....	4	1	trade, technical, or business school .....	49	13
			college degree .....	376	97
			<b>Years of full-time experience</b>		
<b>Number of previous jobs</b>			1 year or less .....	3	1
0 .....	266	69	2 to 5 years .....	68	18
1 or 2 .....	87	22	6 to 10 years .....	65	17
3 to 5 .....	25	6	11 to 20 years .....	129	33
6 to 10 .....	9	2	21 to 30 years .....	84	22
11 and over .....	0	0	31 years and over .....	38	10

**Normative Data**

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	48.53	21.32	77.88
Standard Deviation .....	7.54	4.38	11.92
Hoyt reliability coefficient .....	.91	.82	.92
Standard error of measurement .....	2.31	1.86	3.29
<b>Percentiles</b>			
1 .....	16	8	29
5 .....	36	13	59
10 .....	40	14	64
15 .....	42	16	68
20 .....	44	17	70
25 .....	45	18	72
30 .....	46	19	73
35 .....	47	20	75
40 .....	48	.....	77
45 .....	.....	21	78
50 .....	49	.....	79
55 .....	50	22	80
60 .....	51	.....	81
65 .....	.....	23	82
70 .....	52	.....	83
75 .....	53	24	85
80 .....	54	.....	86
85 .....	.....	25	88
90 .....	55	26	90
95 .....	58	27	93
99 .....	60	29	98

## OFFICE CLERKS (N=227)

## Sample Characteristics

Data source. See page 112.

	N	%		N	%
<b>Age</b>			<b>Tenure in present occupation</b>		
18 to 25 .....	17	7	1 year or less .....	7	3
26 to 35 .....	65	29	2 to 5 years .....	54	24
36 to 45 .....	55	24	6 to 10 .....	43	19
46 to 55 .....	50	22	11 to 20 .....	70	31
56 to 65 .....	35	15	21 to 30 .....	26	11
65 and over .....	5	2	31 years and over .....	27	12
<b>Disabling condition</b>			<b>Training for present occupation</b>		
none .....	185	81	on the job training .....	74	32
single disabling condition .....	38	17	company training program .....	22	10
multiple disabling condition .....	4	2	apprenticeship .....	24	11
			trade, technical, or business school .....	89	39
			college degree .....	21	9
<b>Number of previous jobs</b>			<b>Years of full-time experience</b>		
0 .....	67	29	1 year or less .....	0	0
1 or 2 .....	96	42	2 to 5 years .....	24	11
3 to 5 .....	50	22	6 to 10 years .....	34	15
6 to 10 .....	13	6	11 to 20 .....	57	25
11 and over .....	1	4	21 to 30 years .....	68	30
			31 years and over .....	54	24

## Normative Data

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	47.32	19.37	74.48
Standard Deviation .....	7.67	4.95	12.45
Hoyt reliability coefficient .....	.88	.79	.90
Standard error of measurement .....	2.70	2.28	3.89
<b>Percentiles</b>			
1 .....	21	6	38
5 .....	33	11	52
10 .....	37	12	57
15 .....	39	13	60
20 .....	41	14	64
25 .....	43	15	66
30 .....	44	16	69
35 .....	46	17	72
40 .....	47	18	73
45 .....	48	.....	74
50 .....	49	19	75
55 .....	.....	20	77
60 .....	50	21	79
65 .....	.....	.....	80
70 .....	51	22	82
75 .....	52	23	84
80 .....	53	.....	85
85 .....	54	24	86
90 .....	55	25	88
95 .....	56	26	91
99 .....	59	28	95



**SALESMEN (N=195)**

**Sample Characteristics**

Data source. See page 112.

	N	%		N	%
<b>Age</b>			<b>Tenure in present occupation</b>		
18 to 25 .....	10	5	1 year or less .....	6	3
26 to 35 .....	43	22	2 to 5 years .....	31	16
36 to 45 .....	53	27	6 to 10 years .....	39	20
46 to 55 .....	57	29	11 to 20 .....	76	39
56 to 65 .....	32	16	21 to 30 .....	27	14
65 and over .....	0	0	31 years and over .....	16	8
			<b>Training for present occupation</b>		
<b>Disabling condition</b>			on the job training .....	58	30
none .....	161	82	company training program .....	47	24
single disabling condition .....	32	16	apprenticeship .....	12	6
multiple disabling condition .....	2	1	trade, technical, or business school .....	49	25
			college degree .....	27	14
			<b>Years of full-time experience</b>		
<b>Number of previous jobs</b>			1 year or less .....	1	1
0 .....	57	29	2 to 5 years .....	18	9
1 or 2 .....	90	46	6 to 10 years .....	16	8
3 to 5 .....	38	19	11 to 20 years .....	69	35
6 to 10 .....	10	5	21 to 30 years .....	38	19
11 and over .....	0	0	31 years and over .....	53	27

**Normative Data**

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	50.24	21.38	79.82
Standard Deviation .....	7.58	4.71	11.82
Hoyt reliability coefficient .....	.90	.81	.91
Standard error of measurement .....	2.44	2.08	3.57
<b>Percentiles</b>			
1 .....	18	9	33
5 .....	36	12	56
10 .....	42	14	64
15 .....	44	15	69
20 .....	47	16	72
25 .....	48	18	74
30 .....	.....	19	76
35 .....	49	20	78
40 .....	50	.....	80
45 .....	.....	21	81
50 .....	51	22	82
55 .....	.....	.....	83
60 .....	52	23	84
65 .....	53	.....	85
70 .....	54	.....	86
75 .....	.....	24	87
80 .....	55	25	88
85 .....	56	26	90
90 .....	57	27	92
95 .....	58	28	95
99 .....	60	30	99

## JANITORS AND MAINTENANCEMEN (N=242)

Sample Characteristics

Data source. See page 112.

	N	%		N	%
<b>Age</b>			<b>Tenure in present occupation</b>		
18 to 25 .....	3	1	1 year or less .....	4	2
26 to 35 .....	33	14	2 to 5 years .....	41	17
36 to 45 .....	59	24	6 to 10 .....	58	24
46 to 55 .....	77	32	11 to 20 .....	92	38
56 to 65 .....	55	23	21 to 30 .....	25	10
65 and over .....	13	5	31 years and over .....	22	9
			<b>Training for present occupation</b>		
<b>Disabling condition</b>			on the job training .....	72	30
none .....	192	79	company training program .....	39	16
single disabling condition .....	41	17	apprenticeship .....	43	18
multiple disabling condition .....	9	4	trade, technical, or business school .....	83	34
			college degree .....	0	0
			<b>Years of full-time experience</b>		
<b>Number of previous jobs</b>			1 year or less .....	0	0
0 .....	19	8	2 to 5 years .....	2	1
1 or 2 .....	100	41	6 to 10 years .....	13	5
3 to 5 .....	94	39	11 to 20 years .....	49	20
6 to 10 .....	28	12	21 to 30 years .....	70	29
11 and over .....	1	4	31 years and over .....	106	44

## Normative Data

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	49.03	20.99	78.01
Standard Deviation .....	6.91	4.86	11.51
Hoyt reliability coefficient .....	.86	.79	.89
Standard error of measurement .....	2.56	2.21	3.75
<b>Percentiles</b>			
1 .....	26	9	44
5 .....	36	12	58
10 .....	40	14	62
15 .....	42	15	68
20 .....	44	16	70
25 .....	46	17	72
30 .....	47	18	73
35 .....	.....	19	75
40 .....	48	20	76
45 .....	.....	.....	77
50 .....	49	21	78
55 .....	50	22	79
60 .....	51	.....	80
65 .....	.....	23	82
70 .....	52	.....	83
75 .....	53	24	85
80 .....	54	25	88
85 .....	55	26	89
90 .....	56	27	91
95 .....	59	28	95
99 .....	60	30	98

## MACHINISTS (N=240)

## Sample Characteristics

Data source. See page 112.

	N	%		N	%
<b>Age</b>			<b>Tenure in present occupation</b>		
18 to 25 .....	14	6	1 year or less .....	2	1
26 to 35 .....	53	22	2 to 5 years .....	25	10
36 to 45 .....	53	22	6 to 10 .....	31	13
46 to 55 .....	87	36	11 to 20 .....	70	29
56 to 65 .....	38	16	21 to 30 .....	85	35
65 and over .....	3	1	31 years and over .....	27	11
			<b>Training for present occupation</b>		
<b>Disabling condition</b>			on the job training .....	81	34
none .....	205	85	company training program .....	26	11
single disabling condition .....	27	11	apprenticeship .....	82	34
multiple disabling condition .....	8	3	trade, technical, or business school .....	128	53
			college degree .....	0	0
			<b>Years of full-time experience</b>		
<b>Number of previous jobs</b>			1 year or less .....	1	0
0 .....	68	28	2 to 5 years .....	5	2
1 or 2 .....	98	41	6 to 10 years .....	23	10
3 to 5 .....	28	12	11 to 20 years .....	60	25
6 to 10 .....	9	4	21 to 30 years .....	79	33
11 and over .....	0	0	31 years and over .....	71	30

## Normative Data

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	48.28	19.70	75.71
Standard Deviation .....	6.78	5.03	11.52
Hoyt reliability coefficient .....	.86	.82	.90
Standard error of measurement .....	2.52	2.13	3.70
<b>Percentiles</b>			
1 .....	27	7	43
5 .....	35	10	55
10 .....	39	12	59
15 .....	42	14	62
20 .....	43	15	66
25 .....	45	16	69
30 .....	46	17	71
35 .....	.....	.....	72
40 .....	47	18	74
45 .....	48	19	75
50 .....	49	20	77
55 .....	50	21	78
60 .....	.....	.....	79
65 .....	51	22	81
70 .....	52	23	82
75 .....	.....	.....	84
80 .....	53	.....	85
85 .....	54	24	86
90 .....	55	25	88
95 .....	57	26	92
99 .....	60	28	97

ASSEMBLERS (N=74)

Sample Characteristics

Data source. See page 112.

	N	%		N	%
<b>Age</b>			<b>Tenure in present occupation</b>		
18 to 25 .....	7	9	1 year or less .....	1	1
26 to 35 .....	22	30	2 to 5 years .....	24	32
36 to 45 .....	20	27	6 to 10 .....	14	19
46 to 55 .....	16	22	11 to 20 .....	27	36
56 to 65 .....	7	9	21 to 30 .....	8	11
65 and over .....	0	0	31 years and over .....	0	0
			<b>Training for present occupation</b>		
<b>Disabling condition</b>			on the job training .....	21	28
none .....	65	88	company training program .....	3	4
single disabling condition .....	8	11	apprenticeship .....	3	4
multiple disabling condition .....	1	1	trade, technical, or business school .....	20	27
			college degree .....	1	1
			<b>Years of full-time experience</b>		
<b>Number of previous jobs</b>			1 year or less .....	0	0
0 .....	12	16	2 to 5 years .....	11	15
1 or 2 .....	35	47	6 to 10 years .....	8	11
3 to 5 .....	20	27	11 to 20 years .....	19	26
6 to 10 .....	6	8	21 to 30 years .....	18	24
11 and over .....	1	1	31 years and over .....	18	24

Normative Data

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	44.53	17.89	69.78
Standard Deviation .....	7.18	5.03	11.41
Hoyt reliability coefficient .....	.84	.80	.87
Standard error of measurement .....	2.88	2.24	4.08
<b>Percentiles</b>			
1 .....	26	7	39
5 .....	31	8	48
10 .....	35	11	52
15 .....	37	12	55
20 .....	38	13	59
25 .....	39	.....	61
30 .....	40	14	65
35 .....	41	15	66
40 .....	43	16	68
45 .....	44	17	69
50 .....	45	18	70
55 .....	46	19	72
60 .....	47	.....	73
65 .....	.....	20	75
70 .....	48	21	77
75 .....	50	.....	79
80 .....	51	22	80
85 .....	52	23	82
90 .....	54	24	83
95 .....	55	25	86
99 .....	56	26	87

## ELECTRICAL ASSEMBLERS (N=358)

**Job description.** D.O.T. 728.884. Assembles electrical instruments, such as ammeters, galvanometers, and voltmeters.

**Administration.** Questionnaires were administered to employees on the job.

## Sample Characteristics

	N	%		N	%
<b>Age</b>			<b>Sex</b>		
18 to 25 .....	45	13	male .....	171	48
26 to 35 .....	97	27	female .....	184	52
36 to 45 .....	109	31	<b>Tenure in present job</b>		
46 to 55 .....	80	22	1 year or less .....	0	0
56 to 65 .....	21	6	2 to 5 years .....	70	20
66 and over .....	1	0	6 to 10 years .....	71	20
<b>Education</b>			11 to 20 years .....	189	53
less than 12 years .....	131	37	21 to 30 years .....	26	7
high school graduate .....	203	57	31 years and over .....	2	1
some college .....	17	5			
college graduate .....	1	0			

## Normative Data

	Scale		
	Intrinsic	Extrinsic	General
Mean .....	42.33	18.07	67.47
Standard Deviation .....	7.82	4.84	12.26
Hoyt reliability coefficient .....	.84	.77	.88
Standard error of measurement .....	3.12	2.34	4.28
<b>Percentiles</b>			
1 .....	21	7	38
5 .....	28	10	47
10 .....	31	11	51
15 .....	33	12	54
20 .....	34	13	56
25 .....	36	14	58
30 .....	37	.....	60
35 .....	39	15	61
40 .....	41	16	64
45 .....	42	17	66
50 .....	43	18	68
55 .....	44	.....	69
60 .....	45	19	71
65 .....	46	20	73
70 .....	47	.....	74
75 .....	.....	21	76
80 .....	48	22	78
85 .....	50	23	80
90 .....	51	24	84
95 .....	54	25	86
99 .....	58	28	92