

Manual for the

M MINNESOTA

I IMPORTANCE

Q QUESTIONNAIRE

A Measure of Vocational  
Needs and Values

James B. Rounds, Jr., George A. Henly,  
René V. Dawis, Lloyd H. Lofquist,  
and David J. Weiss

Vocational Psychology Research  
Work Adjustment Project  
Department of Psychology

1981

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MANUAL



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## Preface

This manual is written for users of the Minnesota Importance Questionnaire. It is designed to assist vocational psychologists, counselors, and other professional persons in assessing the work-relevant needs and values of individuals through the use of the Minnesota Importance Questionnaire (MIQ). This Manual has two parts: Part I describes the nature, purpose, administration, scoring, and reporting of results for the MIQ. Part II discusses the counseling use and interpretation of the MIQ in both its actuarial and clinical aspects. A separate technical manual is available. It presents information on the development, standardization, reliability and validity of the MIQ.

The MIQ was developed in the context of the Theory of Work Adjustment (Lofquist & Dawis, 1969). This theory focuses on the correspondence of the individual and the work environment as the key to understanding adjustment to work. The well-adjusted worker is one who is both satisfactory and satisfied. To be satisfactory, the worker's skills and abilities must meet the requirements of the job. For the worker to be satisfied, the job must meet his or her needs and values. To assist an individual in planning for work adjustment it is necessary to know about skills, abilities, and job requirements, and about needs, values, and job conditions that meet needs and values (called occupational reinforcers). It is also necessary to know how closely the individual and the work environment correspond.

People differ; jobs differ. People differ in the kinds and amounts of needs and values requiring satisfaction in work. Jobs differ in the kinds and amounts of reinforcers they will provide. In this manual our concern is with the assessment of work-relevant needs and values through the use of the MIQ, and with the correspondence of these needs and values with occupational reinforcers for the purpose of forecasting satisfaction.

The following individuals contributed to the development of the MIQ: Fred Borgen, Fanny Cheung, Kenneth Doyle, Raina Eberly, Brian Engdahl, Peter Flint, Rosemary Fruehling, Evan Gay, Darwin Hendel, Charles Humphrey, Cynthia Marsh, Stuart Rosen, Deborah Seaburg, Elaine Sloan, Kenneth Taylor, Howard Tinsley, and Patricia Martin Woolf. Several of the applications described in the manual derive from the activities of the Work Adjustment Project, supported by the U.S. Department of Health, Education, and Welfare, and the Minnesota Division of Vocational Rehabilitation, and from the experiences of the Vocational Assessment Clinic, sponsored by the University of Minnesota Center for Urban and Regional Affairs, the Northwest Area Foundation, and the St. Paul Foundation.

PART I. DESCRIPTION OF THE MIQ

## Nature and Purpose

What makes people satisfied with their work? Some people say that pay is all that matters. Others want security, autonomy, challenge, or variety. Some place the most importance on having work that uses their best abilities. For others, relationships with other people (supervisor, co-workers, customers) are very important. Obviously, different people have different requirements for satisfaction in work. These requirements are often called needs. The conditions in work that meet these needs are often referred to as satisfiers, rewards, or motivators. In this manual the conditions that meet needs are called reinforcers.

In the early 1960's, the Work Adjustment Project at the University of Minnesota set about to identify and define a set of basic needs relevant to satisfaction in work. After an extensive review of the literature and the completion of a number of empirical pilot studies, a set of twenty needs was chosen. Instruments were then developed for the assessment of these twenty needs, and the Minnesota Importance Questionnaire (MIQ) was the result. (See Technical Manual for details.)

Research in the Work Adjustment Project was guided by a framework for research that is formally stated as the Theory of Work Adjustment (Lofquist & Dawis, 1969). According to this theory, work adjustment is indicated by an individual's satisfactoriness and satisfaction. Satisfactoriness is best predicted by the correspondence of an individual's abilities and the ability requirements of the work environment. Satisfaction is best predicted by the correspondence of an individual's needs and the reinforcers in the work environment.

The MIQ was originally developed as an instrument for use in testing and applying the Theory of Work Adjustment. With the MIQ available for the assessment of individual needs, commensurate instruments were developed to describe reinforcer systems in the work environment (Occupational Reinforcer Patterns) and individual need satisfaction (Minnesota Satisfaction Questionnaire). With these instruments in hand, it is possible to apply the Theory of Work Adjustment, specifically Proposition III which states that the satisfaction of an individual results from the correspondence of that individual's needs and the reinforcers in the work environment. The greater the correspondence, the more satisfied the individual will be; the greater the discorrespondence, the less satisfied the individual will be. These relationships will hold only if the

individual's abilities also correspond to the ability requirements of the work environment.

The MIQ, as a measure of vocational needs, may be used in vocational counseling, career planning, and job placement. In vocational counseling, the counselor can use the MIQ to help individuals to understand their unique sets of psychological needs and how these needs will relate to their expectations of particular work settings. Knowledge of needs will also assist the counselee and the counselor in identifying those work environments that will be the most appropriate in the sense that they will meet expectations and result in job satisfaction. In other words, individuals need to know how the work setting will match their needs.

In career planning, the MIQ profile of needs can be compared with profiles of the reinforcer systems (called Occupational Reinforcer Patterns) for specific benchmark occupations. Benchmark occupations have been selected to represent different fields and levels of work. Comparisons with these reinforcer systems provide a systematic way to explore the world of work and to identify, from the many occupations that exist, those occupations that are most likely to be satisfying for a given individual.

In job placement, knowledge of needs of employees is important for employers from the standpoint of maintaining a satisfied work force as a necessary condition for maximizing productivity and minimizing turnover, absences, tardiness, accidents, and injuries. Optimal placement of workers is facilitated by employer knowledge of both the needs of workers and the reinforcer systems of jobs in the work organization. Knowledge of worker needs can also be very useful to the employer when new jobs are created and existing jobs are modified.

#### Description and Use

The MIQ is an instrument designed to measure twenty psychological needs and six underlying values that have been found to be relevant to work adjustment, specifically to satisfaction with work. In completing the instrument, an individual expresses the relative importance of the twenty needs.

The twenty needs, their acronyms, and the statements representing them in the MIQ, are the following:

1. Ability Utilization (AU): I could do something that makes use of my abilities.

2. Achievement (Ach): The job could give me a feeling of accomplishment.
3. Activity (Act): I could be busy all the time.
4. Advancement (Adv): The job would provide an opportunity for advancement.
5. Authority (Au): I could tell people what to do.
6. Company Policies and Practices (CPP): The company would administer its policies fairly.
7. Compensation (Com): My pay would compare well with that of other workers.
8. Co-workers (Cow): My co-workers would be easy to make friends with.
9. Creativity (Cre): I could try out some of my own ideas.
10. Independence (Ind): I could work alone on the job.
11. Moral Values (MV): I could do the work without feeling that it is morally wrong.
12. Recognition (Rec): I could get recognition for the work I do.
13. Responsibility (Res): I could make decisions on my own.
14. Security (Sec): The job would provide for steady employment.
15. Social Service (SSe): I could do things for other people.
16. Social Status (SSt): I could be "somebody" in the community.
17. Supervision--Human Relations (SHR): My boss would back up the workers (with top management).
18. Supervision--Technical (ST): My boss would train the workers well.
19. Variety (Var): I could do something different every day.
20. Working Conditions (WC): The job would have good working conditions.

The twenty needs listed above obviously do not exhaust the list of all needs that may have importance for all individuals. They constitute a representative sampling of those needs found to be the most significant in relation to work. These needs may be further described in terms of the work-environment conditions that satisfy them, i.e., in terms of their environmental reinforcers. Such descriptions are shown in Table 1.

Needs reflect more basic groupings of preferences called values. Values are thought of as basic, enduring, pervasive, and powerful. Values may be thought of as standards of importance for the individual. They influence

Table 1  
The Twenty Vocational Needs and Their Work-Related Reinforcers

Vocational Need	Work-Related Reinforcers
Ability Utilization	Tasks that allow exercise of self-perceived skills and talents.
Achievement	Tasks that are productive of pride in the accomplishment thereof.
Activity	Tasks that call for a relatively constant and sustained level of energy investment.
Advancement	Work environment in which there is an opportunity for fair evaluation of and consequent advancement for work-related excellence.
Authority	Tasks that include power to decide the methods by which a job is performed and to impose those decisions on co-workers.
Company Policies and Practices	Work environment characterized by explicit and definitive guidelines consistently disseminated and practiced.
Compensation	Tasks providing compensation based upon quantity and quality of work performed, and comparable to compensation paid to others for performance of similar tasks.
Co-workers	Work environment in which employees are interested in and responsive to friendly interpersonal gestures and relationships.
Creativity	Tasks that are amenable to innovations independently conceived and performed by the worker.
Independence	Work environment in which the individual works alone.

-continued on the next page-

Table 1, continued  
The Twenty Vocational Needs and Their Work-Related Reinforcers

Vocational Need	Work-Related Reinforcers
Moral Values	Tasks that do not conflict with a worker's unwillingness to participate in any action she or he defines as wrong-doing.
Recognition	Work environment in which rewards are forthcoming for praiseworthy individual performance.
Responsibility	Tasks that facilitate the exercise of autonomy and accountability.
Security	Work environment that promises continuity of employment and compensation.
Social Service	Tasks perceived to promote the welfare of others.
Social Status	Tasks that result in respect and social status for the worker.
Supervision--Human Relations	Work environment in which the supervisor creates and maintains an atmosphere of mutual respect and personal investment among subordinates and superiors.
Supervision--Technical	Work environment characterized by competent and effective supervision.
Variety	Tasks characterized by a range of possible activities.
Working Conditions	Work environment characterized by agreeable physical conditions.

choices of environments, and affect perceptions of and satisfaction with environmental conditions.

The twenty MIQ needs can be represented by six underlying values. These values and the component needs that define each value are the following:

- Achievement Value - Ability Utilization  
Achievement
- Comfort Value ----- Activity  
Independence  
Variety  
Compensation  
Security  
Working Conditions
- Status Value ----- Advancement  
Recognition  
Authority  
Social Status
- Altruism Value ---- Co-workers  
Social Service  
Moral Values
- Safety Value ----- Company Policies and Practices  
Supervision--Human Relations  
Supervision--Technical
- Autonomy Value ---- Creativity  
Responsibility

The six values may also be described in terms of work environment reinforcement systems for meeting individuals' standards of importance, i.e., reinforcers that are available to satisfy clusters of needs. The work environment descriptions for each of the six values are as follows:

- Achievement--an environment that encourages accomplishment.
- Comfort--an environment that is comfortable and non-stressful.
- Status--an environment that provides recognition and prestige.
- Altruism--an environment that fosters harmony with and service to others.
- Safety--an environment that is predictable and stable.
- Autonomy--an environment that stimulates initiative.

### Forms of the MIQ

There are two forms of the MIQ, a paired form and a ranked form. The two forms are equivalent (see MIQ Technical Manual).

The paired form is known technically as a paired-comparison instrument, which presents each of the twenty statements in pairs with each of the remaining nineteen statements. This format requires the individual completing the MIQ to choose the one statement of each pair that is the more important. From these choices it is possible to determine the relative level of importance to the individual of each of the twenty statements. Each of the twenty statements is also rated in terms of whether it is important to the individual in its own right. These ratings provide a basis for converting the relative level of importance of a reinforcer (as determined by the paired-comparison responses) to an absolute level of importance. That is, not only does the MIQ indicate that a reinforcer is more important than other reinforcers, but also which reinforcers are not important at all. Since all of the statements refer to job conditions (reinforcers) available for job satisfaction, their importance to an individual provides one way of describing that individual's work relevant needs. In other words, a need, as measured by the MIQ, can be defined as a preference for a reinforcer in work, expressed in terms of its importance to the individual. (See Appendix A for the paired form.)

The ranked form is known technically as a multiple-rank-order instrument. It presents need statements in groups of five. The same twenty need statements are used plus an additional statement that is required by the multiple-rank-order format. The added statement represents the need, Autonomy (Aut): I could plan my work with little supervision. The groups are constructed to provide for the pairing of each of the twenty-one statements with each of the other twenty. This format requires the individual to rank-order the five statements in each group according to their relative importance. In this manner, the ranked form provides information that is equivalent to that obtained with the paired form.

The ranked form was originally developed to provide an alternate form of the MIQ for use in retest situations. Either form can be used by itself. Some counselors have expressed preference for the ranked form because it requires less time and avoids the appearance of being repetitive. However, some clients have expressed a preference for the paired form, finding it easier to choose between two statements than to rank-order five statements. (See Appendix B for the ranked form).

The MIQ is appropriate for use with adults or high school students of both sexes. It has a reading difficulty level of about 5th grade. However, needs (preferences for reinforcers) may not be well enough defined until the 10th grade for most individuals. Therefore, the MIQ is most appropriate for use with adults but, in any case, should not be used with individuals younger than age 16 except for research purposes.

The MIQ has been shown to be a highly reliable instrument. Median reliability coefficients for the 20 MIQ scales, calculated for nine different groups, ranged from .77 to .81. Need scores and need profiles have been found to be stable over time. Median scale test-retest correlations for the 20 MIQ scales ranged from .89 for immediate retesting to .53 for retesting after ten months. Median profile test-retest correlations ranged from .95 for immediate retesting to .87 for retesting after ten months. Several validity studies of the MIQ have indicated that it measures what it was intended to measure. Detailed information on the reliability and validity studies may be found in the technical manual.

In keeping with the standards of the American Psychological Association, the MIQ should be used only under the supervision of a qualified psychologist, i.e., a member of the Association or a person with at least a Master's degree in psychology or its equivalent in training and experience.

#### Administration

The MIQ may be used in both individual and group settings. The MIQ is essentially a self-administered instrument that requires only a minimum of supervision. It should be administered in a quiet and comfortable setting. The test administrator may either call attention to the directions printed on the MIQ, or read the directions to the counselee. Since a separate answer sheet is used, the test administrator should monitor the first several responses to ensure that the counselee is completing the answer sheet properly. Average time required to complete the MIQ is about 35 minutes for the paired form and about 20 minutes for the ranked form. There is, however, no time limit for either form.

All necessary instructions appear in the MIQ booklet. The test administrator should make sure that the respondent understands that the focus of the questionnaire is on the "ideal job." The administrator should also check to see that the individual is choosing only one answer per item on the paired form, or assigning five different ranks for each item on the ranked form, and is responding

to the items consecutively while moving in the correct direction on the answer sheet. Furthermore, since the MIQ is a self-report instrument of personal preferences, the administrator should encourage the respondent to answer as honestly and frankly as possible.

It is very important that the individual make a response for every item. The completed answer sheet should be checked carefully for unanswered or incorrectly ranked items and the respondent should be asked to complete or redo those items.

The respondent should be encouraged to respond rapidly to the MIQ items: read each item, make a choice, and move quickly to the next item. Since the first reaction to each item is likely to reflect one's "true" feeling, the respondent should not look back over answers or change answers once they have been marked on the answer sheet.

Occasionally an individual will complain about the apparent repetitiveness of some of the items on the paired form. It might appear that the same item pairs are being presented to determine if the individual responds the same way each time. The test administrator should explain that while the same statement appears many times, no pair of statements is repeated. It is advisable to mention this fact to the individual before administering the MIQ.

### The MIQ Report

MIQ answer sheets are computer scored by Vocational Psychology Research, Department of Psychology, University of Minnesota, 75 East River Road, Minneapolis, Minn., 55455. Hand scoring the MIQ is very time consuming. A computer-generated printout provides a profile of need and value scores on the first page, and a listing of occupations for which satisfaction is predicted or not predicted on the second page. Figure 1 shows a standard MIQ computer report.

The report in Figure 1 presents the following information: In the upper left-hand corner of the first page, following the date of administration, an LCT (Logically Consistent Triad) score is shown. This score represents the degree of logical consistency of response of the individual.

The MIQ need scales, with their abbreviated scale statements, are listed in the lefthand column in six groups according to their membership in a value cluster. The value clusters are ordered to reflect diametrically opposed values. The Achievement Value is followed by the contrasting Comfort Value. In similar fashion the Status Value is followed by the Altruism Value and the Safety Value

by the Autonomy Value.

Need scores are given for each need scale under the column heading "Score". While need scores can range from -4.0 to +4.0, in practice almost all scores will fall within the range from -1.0 to +3.0, the scale that is used in the report. The score for each need scale is plotted as an "X" and is usually accompanied by dashes on either side of the "X" to indicate the range within which this score might have varied had the individual been more consistent in responding. Similarly, the score for each value is plotted as a "V," and the score itself is identified by an asterisk. (Any obtained scores that are lower than -1.0 or higher than +3.0 are plotted at -1.0 or +3.0 respectively, using XX.)

The profile scale, shown on the top and bottom of the MIQ report, may be regarded as a scale of importance of each need to the individual. The scale range is divided into regions of Importance and Unimportance by a 0.0 point. These regions are indicated by "Important" and "Unimp".

The second page of the MIQ report lists ninety representative, or benchmark, occupations grouped into six clusters. These clusters designate groups of occupations with similar Occupational Reinforcer Patterns. An Occupational Reinforcer Pattern (ORP) describes the reinforcers for the 20 MIQ needs present in an occupation (see Appendix C for a sample ORP). A separate ORP has been developed for each of these occupations.

Each cluster is characterized by a predominant reinforcer pattern expressed in value terms. For example, Cluster A (ACH-AUT-Alt) lists occupations for which the reinforcers for the Achievement (ACH) and Autonomy (AUT) values are high and the reinforcers for the Altruism (Alt) value are moderate. Within each cluster the 15 representative occupations are listed in alphabetical order.

Next to this listing, the column labeled the "C Index" gives the correspondence index. This index indicates the degree to which the individual's MIQ profile corresponds to the ORP of each occupation that is listed. The C-index is a correlation coefficient and may, therefore, range from -1.00 to +1.00. The closer the C-Index is to +1.00, the higher is the correspondence of the MIQ profile to the ORP. Conversely, the closer the C-Index is to the -1.00 end of the possible range, the higher is the discorrespondence between MIQ profile and ORP.

The column labeled "Pred. Sat." (predicted satisfaction) lists a symbol S, L, or N for each occupation. S (Satisfied) indicates a high probability of satisfaction with the occupation; L (Likely Satisfied) indicates a moderate probability; and N (Not Satisfied) indicates little or no probability of satisfaction.

Figure 1  
A Sample MIQ Report

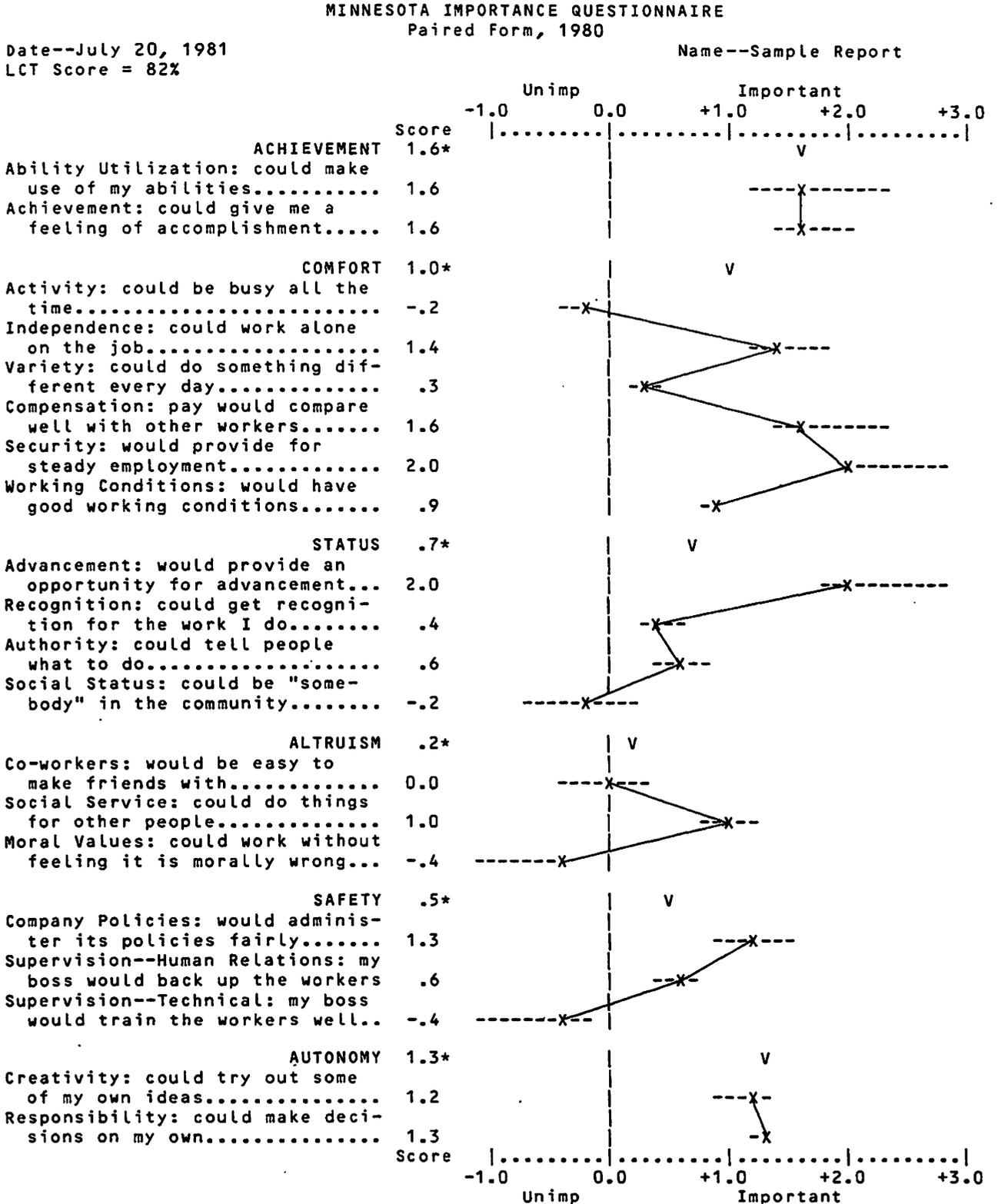


Figure 1, continued

MINNESOTA IMPORTANCE QUESTIONNAIRE

Correspondence Report for Sample Report Date: July 20, 1981  
 MIQ profile is compared with Occupational Reinforcer Patterns (ORP'S)  
 for 90 representative occupations. Correspondence is indicated by  
 the C-Index. A prediction of Satisfied (S) results from C values  
 greater than .50, Likely Satisfied (L) for C values between .10 and  
 .49, and Not Satisfied (N) for C values less than .10. Occupations  
 are clustered by similarity of Occupational Reinforcer Pattern.

	C	Pred.		C	Pred.
	Index	Sat.		Index	Sat.
Cluster A (ACH-AUT-Alt)			Cluster B (ACH-Com)		
Architect.....	.25	L	Bricklayer.....	-.07	N
Dentist.....	.21	L	Carpenter.....	.24	L
Family Practitioner (M.D.)...	.21	L	Cement Mason.....	-.16	N
Interior Designer-Decorator..	.43	L	Elevator Repairer.....	.48	L
Lawyer.....	.35	L	Heavy Equipment Operator.....	.30	L
Minister.....	.13	L	Landscape Gardener.....	-.11	N
Nurse, Occupational Health...	.12	L	Lather.....	-.05	N
Occupational Therapist.....	.33	L	Millwright.....	.10	L
Optometrist.....	.39	L	Painter/Paperhanger.....	.11	L
Psychologist, Counseling.....	.21	L	Patternmaker, Metal.....	.28	L
Recreation Leader.....	.15	L	Pipefitter.....	.34	L
Speech Pathologist.....	.28	L	Plasterer.....	-.13	N
Teacher, Elementary School...	.23	L	Plumber.....	.37	L
Teacher, Secondary School....	.28	L	Roofer.....	-.04	N
Vocational Evaluator.....	.36	L	Salesperson, Automobile.....	.43	L
Cluster C (ACH-Aut-Com)			Cluster D (ACH-STA-Com)		
Alteration Tailor.....	.27	L	Accountant, Certified Public..	.43	L
Automobile Mechanic.....	.25	L	Airplane Co-Pilot, Commercial	.25	L
Barber.....	.46	L	Cook (Hotel-Restaurant)....	.48	L
Beauty Operator.....	.44	L	Department Head, Supermarket.	.38	L
Caseworker.....	.28	L	Drafter, Architectural.....	.41	L
Claim Adjuster.....	.51	S	Electrician.....	.44	L
Commercial Artist, Illustrat.	.56	S	Engineer, Civil.....	.45	L
Electronics Mechanic.....	.39	L	Engineer, Time Study.....	.59	S
Locksmith.....	.28	L	Farm-Equipment Mechanic I....	.52	S
Maintenance Repairer, Factory	.41	L	Line-Installer-Repairer (Tel)	.13	L
Mechanical-Engineering Tech..	.40	L	Machinist.....	.54	S
Office-Machine Servicer.....	.53	S	Programmer (Bus., Eng., Sci.)	.65	S
Photoengraver (Stripper)....	.54	S	Sheet Metal Worker.....	.50	S
Sales Agent, Real Estate.....	.32	L	Statistical-Machine Servicer..	.56	S
Salesperson, General Hardware	.15	L	Writer, Technical Publication	.61	S
Cluster E (COM)			Cluster F (Alt-Com)		
Assembler, Production.....	.05	N	Airplane-Flight Attendant....	.02	N
Baker.....	.16	L	Clerk, Gen. Ofc., Civil Svc..	.03	N
Bookbinder.....	.28	L	Dietitian.....	.56	S
Bookkeeper I.....	.31	L	Fire Fighter.....	.16	L
Bus Driver.....	.17	L	Librarian.....	.28	L
Key-Punch Operator.....	.10	L	Medical Technologist.....	.21	L
Meat Cutter.....	.16	L	Nurse, Professional.....	.15	L
Post-Office Clerk.....	.13	L	Orderly.....	-.08	N
Production Helper (Food)....	.24	L	Physical Therapist.....	.34	L
Punch-Press Operator.....	.11	L	Police Officer.....	.13	L
Sales, General (Dept. Store)..	.20	L	Receptionist, Civil Service..	.29	L
Sewing-Machine Operator, Auto	.03	N	Secretary (General Office)...	.26	L
Solderer (Production Line)...	.16	L	Taxi Driver.....	.12	L
Telephone Operator.....	.17	L	Telephone Installer.....	.42	L
Teller (Banking).....	.18	L	Waiter-Waitress.....	.18	L

The ranges of correlation coefficients (C-Index) are from +0.50 to +1.00 for S, +0.10 to +0.49 for L, and from -1.00 to +0.09 for N.

In addition to the standard MIQ report, an extended MIQ report may be requested. The extended report differs from the standard report in that it provides correspondence information for all occupations for which ORP information is available. The advantage of the extended report is that, in addition to the 90 benchmark occupations, other occupations are shown in their appropriate clusters. Within each cluster, occupations are listed alphabetically. (See Appendix D for the complete list of occupations.)

With either the standard or extended MIQ reports, additional copies of the report, and/or sets of punched data cards containing MIQ scale scores may be requested.

In the event that an individual's LCT (Logically Consistent Triad) score drops below 33% for the paired form or 50% for the ranked form, the MIQ profile is considered to be questionable because of the extraordinarily high level of inconsistent response. In such cases, the MIQ report is accompanied by an additional report containing an analysis of the distribution, by scale, of the response inconsistency. An example of such a report is shown in Figure 2.

In Figure 2, the LCT score is given along with the score designating the point at which responses become questionable from a logical consistency standpoint. The report also indicates whether or not the inconsistency of response shows a pattern of random or non-random responding (in Figure 2 this pattern is shown to be non-random). The report then lists the 20 MIQ scales in increasing order of consistency and provides a Scale Logically-Consistent-Triad score (Scale LCT %) for each scale. A logically consistent triad is defined as a pattern of response in which A is chosen over B, B over C, and A over C. (By contrast, a logically inconsistent triad is one where A is chosen over B, B over C, and C over A, which does not follow logically from the first two choices.) The higher Scale LCT % scores indicate higher degrees of logical consistency.

#### Context for Use

The MIQ was originally developed for use in applying the Theory of Work Adjustment (Lofquist & Dawis, 1969). According to this theory, work adjustment is a continuous and dynamic interaction between an individual and a work environment. This interaction is described in Appendix E. The purpose of the in-

Figure 2

Logical Consistency of the MIQ (1980 Edition)

Paired Form

Date--June 9, 1981

Name--A Sample Report

Logically Consistent Triad Score = 29%

Questionable LCT Range Begins at 33%

MIQ Scores are Questionable

Analysis of the data indicates a non-random pattern. Listed below are the 20 MIQ vocational need scales in decreasing order of their Logically Consistent Triad scores (Scale LCT %). The scales at the top of the list represent those needs for which the respondent's judgments were least consistent, and those at the bottom represent those needs which the respondent judged most consistently.

MIQ Scale	Scale LCT %	MIQ Scale	Scale LCT %
Independence.....	7	Social Status.....	33
Coworkers.....	21	Supervision--Technical.....	33
Authority.....	25	Achievement.....	33
Responsibility.....	28	Ability Utilization.....	35
Security.....	28	Social Service.....	40
Recognition.....	28	Creativity.....	42
Supervision--Human Relations....	32	Variety.....	53
Advancement.....	32	Moral Values.....	65
Working Conditions.....	32	Activity.....	69
Company Policies & Practices....	33	Compensation.....	83

teraction is the achievement and maintenance of correspondence between individual and environment that results in satisfaction and satisfactoriness. That is, satisfaction and satisfactoriness are the basic indicators of work adjustment.

The formal propositions of the Theory of Work Adjustment are as follows:

Proposition I. Work adjustment at any point in time is indicated by an individual's concurrent levels of satisfactoriness and satisfaction.

Proposition II. Satisfactoriness is a function of the correspondence between the individual's abilities and the ability requirements of the work environment, provided that the reinforcer pattern of the work environment corresponds to the individual's needs.

Corollary IIa. Knowledge of individuals' abilities and of their satisfactoriness permits the determination of the effective ability requirements of the work environment.

Corollary IIb. Knowledge of the ability requirements of the work environment and of an individual's satisfactoriness permits the inference of the individual's abilities.

Proposition III. Satisfaction is a function of the correspondence between the reinforcer pattern of the work environment and the individual's needs, provided that the individual's abilities correspond to the ability requirements of the work environment.

Corollary IIIa. Knowledge of individuals' needs and of their satisfaction permits the determination of the effective reinforcer pattern of the work environment.

Corollary IIIb. Knowledge of the reinforcer pattern of the work environment and of an individual's satisfaction permits the inference of the individual's needs.

Proposition IV. Satisfaction moderates the functional relationship between satisfactoriness and ability-requirement correspondence.

Proposition V. Satisfactoriness moderates the functional relationship between satisfaction and need-reinforcer correspondence.

Proposition VI. The probability that an individual will be forced out of the work environment is inversely related to the individual's satisfactoriness.

Proposition VII. The probability that an individual will voluntarily leave the work environment is inversely related to the individual's satisfaction.

Combining Propositions VI and VII, we have:

Proposition VIII. Tenure is a joint function of satisfactoriness and satisfaction.

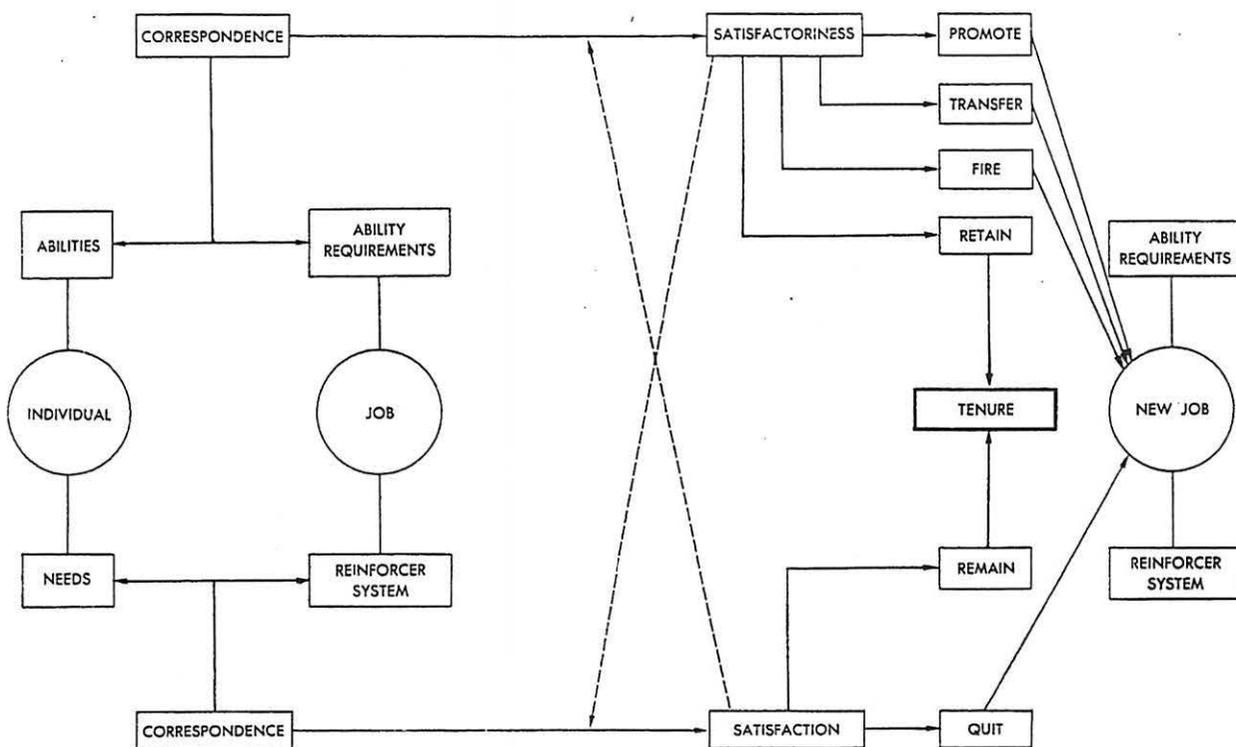
Given Propositions II, III, and VIII, this corollary follows:

Corollary VIIIa. Tenure is a function of ability-requirement and need-reinforcer correspondence.

Proposition IX. Work personality-work environment correspondence increases as a function of tenure.

A schematic representation showing how the Theory of Work Adjustment is used to make predictions is shown in Figure 3.

Figure 3  
Schematic Representation of the Theory of Work Adjustment



In the Theory of Work Adjustment, Proposition III states that the satisfaction of an individual results from the correspondence of that individual's needs and the reinforcers in the work environment. The greater this correspondence, the more satisfied the worker will be. Conversely, the greater the discordance, the less satisfied the worker will be. (These relationships will hold only if the individual's abilities also correspond to the ability requirements of the work setting.)

Use of the MIQ to predict satisfaction, within the Theory-of-Work-Adjustment framework, also requires consideration of personality style. In the theory, seven major personality-style dimensions are postulated.

Flexibility is defined as an individual's tolerance for discorrespondence with the environment. When the individual's tolerance is exceeded, the individual attempts to reduce the discorrespondence using two modes of adjustment.

Activeness is defined as the mode of adjustment in which the individual acts on the environment to change it to a more correspondent one.

Reactiveness is defined as the mode of adjustment in which the individual acts on self to change it to be more correspondent with the environment.

Perseverance is the personality-style dimension that is indicated by the length of time an individual will continue to apply adjustment modes to reduce discorrespondence.

Celerity is defined as the quickness or slowness with which an individual acts to reduce the discorrespondence when it can no longer be tolerated.

Pace is defined as the level of energy expended to reduce intolerable discorrespondence.

Rhythm is the pattern (steady, cyclical, random) of pace.

The prediction of satisfaction using the MIQ should be improved by the knowledge of an individual's personality style. For example, if an individual has demonstrated low flexibility, the correspondence level between needs and reinforcers required to predict minimal satisfaction will be higher than that for a more flexible (tolerant) individual. As another example, if a counselor surveyed clients after job placement, it might be expected that highly celerious individuals would attain predicted levels of satisfaction sooner than less celerious individuals. Research on the assessment of personality style is now being done by the Work Adjustment Project.

PART II. INTERPRETATION OF THE MIQ

## Interpreting the MIQ

The MIQ is designed to provide the counselor with information about an individual's vocationally relevant needs and values. It was originally developed to provide a measure of an important set of variables in the Theory of Work Adjustment and is best interpreted in the context of that theory. Such interpretation suggests that MIQ data for an individual be considered along with ability data, and that both kinds of data be viewed in terms of the individual's correspondence with the environment. Prior to meeting with the counselee, the counselor should examine the MIQ profile in detail.

In interpreting the MIQ, the counselor first checks the LCT score, in the upper left-hand corner of the report, to determine how consistently the individual responded to the questionnaire. If the LCT score is above 33% for the paired form or 50% for the ranked form, the pattern of response may be assumed to have enough consistency for interpretation and the counselor can proceed to examine the profile of need and value scores and the information on correspondence to work environments. If the LCT score is below 33% (paired form) or 50% (ranked form), the counselor should proceed with caution in interpreting the MIQ report. Such a profile may have resulted from random responding. The counselor should first carefully examine the report of Logical Consistency of the MIQ. This report presents an analysis of response consistency for profiles with an LCT score below 33% (paired form) or 50% (ranked form).

If the analysis of response consistency indicates a random response pattern, the counselor will wish to explore the following possible causes: lack of understanding of the task, poor motivation, carelessness, response set (patterned response such as choosing every first alternative), faking, or the possibility that the profile accurately reflects the individual's lack of clear preferences for reinforcers. The last possibility might be supported if biographical information indicates lack of experience with reinforcers. The other possible causes may be explored directly with the individual counselee.

If the report of Logical Consistency of the MIQ indicates a non-random response pattern, the counselor will wish to examine the listing of MIQ scales according to Scale LCT % scores. In the example in Figure 2 (page 15), the counselee appears to be least logically consistent in relation to Independence, Coworkers, Authority, Responsibility, and Security. Logical consistency is relatively good for Compensation, Activity, Moral Values, Variety, and Creativity.

In spite of a low overall LCT score, the MIQ profile still may be interpretable.

Given an LCT score above 33% (paired form) or 50% (ranked form), or the assumption of non-random responding, the counselor may wish to interpret the profile of need and value scores in the following ways:

1. Scale scores may be placed in a rank order to show a hierarchy of needs in terms of their importance for the individual. This is one of the simplest and most important ways of viewing an individual's total set of needs.
2. The profile of needs may be inspected for the most important and least important needs (highest and lowest scores), in order to identify combinations of needs that may require further exploration with the individual.
3. Scale scores may be interpreted as indicating needs that are important to the individual if the scores are 1.0 or higher. They would be interpreted as highly important needs if the scores are 1.5 or higher. Needs having scores lower than 0.0 may be interpreted as unimportant needs for the individual. They should not, however, be interpreted in a negative sense, i.e., as aversive, without further exploration.

When interpreting importance of a need from the scale scores, the counselor should examine the possible error in the score which is indicated by the dashed lines on either side of the X that marks the position of the scale score in the profile. The ends of the total dashed line indicate the uppermost and lowest scores possible had the individual's responses been perfectly consistent from a logical standpoint.

4. MIQ scale scores may also be interpreted by referring to the norms provided for the groups shown in Appendix F. If a scale score falls above the 85th percentile or below the 15th percentile it is a score that is not typical for most individuals in the group being considered. Such an atypical score merits additional exploration of the meaning of the need to the individual to determine the reasons for the extremely high or extremely low score. While the use of these norms may add to the interpretation, it should be remembered that the primary concern in interpreting the MIQ is the description of the relative importance of each of the needs to the individual and not the relative standing of the individual's needs when compared with those of a group of other individuals.
5. The MIQ may be interpreted in terms of the likelihood of satisfaction in a specific occupation using the information that is given in the Correspondence Report. This likelihood is indicated by the symbols S, L, and N (Sat-

isfied, Likely Satisfied, and Not Satisfied, respectively) in the column labeled Pred. Sat. (Predicted Satisfaction). While this form of interpretation goes directly to the prediction of satisfaction with specific occupations, it is limited to those occupations for which ORPs have been established.

6. The MIQ may also be interpreted in terms of groups of occupations (called clusters) with very similar reinforcer patterns. There are six of these clusters as shown on the second page of the standard report form. Fifteen benchmark occupations are listed for each of the six clusters. The most appropriate clusters for an individual are those for which Satisfaction is predicted most frequently, i.e., for the largest number of occupations within a cluster.
7. The MIQ interpretation may be enriched by using the Minnesota Occupational Classification System II (MOCS II). The classification system may be entered by using the Occupational Reinforcer Cluster (ORC)/Values Index. Use of this system will provide the counselor with information on a much larger number of occupations classified according to their reinforcer patterns. The MOCS II will also provide the counselor with additional information on the ability requirements of the occupations being considered. A sample MOCS II page is shown in Appendix G.
8. Since needs represent more specific components of the underlying value system of an individual, the MIQ scale scores may be further interpreted in terms of the pattern of basic values. Studies of the MIQ have shown that six basic values account for the 20 MIQ needs when the interrelationships among these needs are analyzed statistically. The MIQ profile presents the need scales in value groups. The value groups are presented in a sequential order that highlights contrasting values, e.g., Comfort following Achievement. Value scores are also given. They may be interpreted in the same way as need scores, i.e., value scores of 1.0 or greater signify importance, while value scores lower than 0.0 signify non-importance.

Since values are basic reference dimensions for needs, and since the MIQ obviously does not assess all needs that may be relevant, information on relative strengths of values may facilitate counselor exploration of additional counselee needs.

### Strategies for Counseling Use

There are a number of approaches that the counselor may find helpful when using the MIQ in counseling. These approaches, which may be used in some combination, attend to such matters as client interpretation of the meanings of need statements, client self-estimation of needs, counselor estimation of client needs, objective assessment of needs, and correspondence of needs to occupations. Obviously, circumstances and clients will differ and the counselor should select the most appropriate approaches and the appropriate times to use them.

#### 1. Client interpretation of the meanings of need statements.

A useful procedure is simply to ask the client to describe the meaning of each of the need statements. This may uncover discrepancies between client understanding and the typical interpretation of the statement. For example, the statement "I could work alone on the job" (Independence) is typically interpreted to mean literally working by one's self. Some clients, however, may change this meaning to include such ideas as having full responsibility, working without supervision, or being autonomous in the sense of not being interdependent with others in a work group. Counselor and client knowledge of discrepancies of this kind can be helpful in resolving unexpected results and apparent conflicts in the measured levels and patterns of client needs. As an example, it is possible that a client with a high Independence score might also have a high Co-workers score ("My co-workers would be easy to make friends with") if the client interpretation of either were atypical but consistent with interpretation of the other statement. Client interpretation of the meanings of need statements may also yield information that can explain scores that are markedly higher or lower than was expected. It might also explain an unusual rank ordering of the client's assessed needs. In addition, if the client vacillates among possible meanings of a given need statement, this vacillation may well be reflected in a low logical consistency score and may suggest the need for using other data to establish more accurately the level and pattern of needs.

The strategy of encouraging clients to describe the meaning of each of the need statements seems:

- to stimulate a client's thinking about vocational needs,
- to provide a client with more concrete, tangible referents for the vocational needs, and

-to develop a client's awareness of differential opportunities to satisfy these vocational needs.

It is helpful to have the client discuss the needs in the context of current and previous work experiences. Some clients may have few experiences with paid employment. In such cases, the counselor should encourage the client to discuss the vocational need statement in the context of educational experiences, avocational activities, and volunteer-work experiences.

Initially, the counselor should assist the client to focus on the most important need statements. Clients may at first furnish descriptions that are vague; however, with some encouragement and examples, clients will usually discuss the needs in terms of behavioral-environmental referents. The counselor should also explore the meaning of those needs with scores lower than 0.0. For some clients, these unimportant needs refer to conditions that, if present in the work environment, can result in occupational dissatisfaction.

## 2. Client self-estimation of needs.

A useful counseling technique involves asking clients to estimate the strength and/or ranking of their needs. If the client uses the same set of needs and values that are assessed by the MIQ, the client and the counselor can explore the similarities and differences between self-estimated needs and values and measured needs and values. Where similarities are found, the information from measurement of needs and values is validated and may be better accepted by the client. In cases of differences, the client and the counselor will wish to explore other sources of data (including client interpretation of the meanings of the need statements) to reconcile the differences before proceeding to discuss implications for career planning and work adjustment.

Using the MIQ set of needs and values, the client may be asked one or more of the following:

- a. To construct an MIQ profile by rating each need on a scale from Not Important to Extremely Important.
- b. To rank order the six values of the MIQ in terms of importance and, for each value, rate the importance of each of the component needs within that value. From this information one can construct a client-estimated MIQ profile.
- c. To construct a hierarchy of needs according to importance, using an alternation ranking procedure with all twenty MIQ needs. This procedure requires the client to select the most important need and designate it as

rank 1, select the least important need from the remaining 19 and designate it as rank 20, and continue this procedure of alternately selecting the most important and least important needs from the needs remaining unranked after each choice is made. The result of all these choices will be a highly reliable rank ordering of the MIQ needs, based on their importance. All three of the client self-estimation methods suggested above are designed to yield importance rankings of needs in an orderly and consistent fashion. Thus, they should yield data similar to that obtained by the MIQ which uses more sophisticated measurement methods. The advantage, however, of measuring needs and values using the MIQ measurement method is that each need is compared with every other need, and this allows the respondents to manifest inconsistencies that may actually exist in the way they view their needs.

### 3. Counselor estimation of client needs.

The counselor may find it helpful to estimate the client's needs and values from a clinical appraisal of interview content and the information contained in any biographical data forms. In doing this, the counselor will be likely to draw upon a base of experience with other clients, and an extensive knowledge of the workings of reinforcer systems likely to have been experienced by this particular client. Estimating client needs and confirming them against MIQ measured needs provides a way for the counselor to sharpen clinical skills. It also provides information useful in interpreting the measured needs and values to the client. The practice of counselor estimation may also enhance the counselor's knowledge of the clinical meanings of the MIQ.

### 4. Objective assessment of needs.

The MIQ is designed to provide an objective assessment of needs and values. The profile provides the main set of information to be considered by the counselor and the client when discussing this important part of the client's work-personality. The counselor will wish to compare the counselor-estimated need/value profiles with the objective MIQ profile to identify and resolve discrepancies, prior to the MIQ interpretation interview with the client. The counselor will also wish to study the agreement of client self-estimates of needs and values with the MIQ profile. These client self-estimates provide a basis for the interpretation of the objectively-assessed needs and values.

Another way of deriving an objective assessment of needs and values is through the use of biographical information. Research has demonstrated that one can generate MIQ profiles from biographical information that very closely ap-

proximate those obtained from the administration of the MIQ. While this approach is feasible, its use requires the establishment of specific scoring keys for specific client populations. Until that is accomplished, the most practical approach to the use of biographical information as a complementary data source to the MIQ is the counselor-estimation method described above. Research shows the usefulness of biographical information, but its ready application remains at the level of clinical judgment.

5. Correspondence of needs to occupations.

The actuarial use of the MIQ to predict satisfaction is facilitated by the presentation of MIQ-ORP correspondence scores on page 2 of the MIQ report. The counselor may use these scores to identify benchmark occupations for the client's consideration in career planning. Since the counselor may find it advisable to explore occupational areas or groups of occupations rather than focusing on single occupations, the counselor may wish to move from the benchmark occupations suggested by the MIQ to groups of occupations provided in taxonomies like the Minnesota Occupational Classification System II. The counselor will recall the MOCS II may be entered by using the Alphabetical Index of occupational titles or by using the Occupational Reinforcer Cluster (ORC)/Values Index. The MOCS II grouping will provide information about a number of occupations with similar reinforcer characteristics that are appropriate for the client's set of needs/values. It also will provide information on the ability requirements the client must meet. The set of occupations in MOCS II that is appropriate for the client's needs and values will include different levels and patterns of ability requirements, enabling the counselor and client to locate a subset of occupations that are predicted to be appropriate from the standpoint of both satisfaction and satisfactoriness.

Counselors will occasionally have clients for whom knowledge of a specific occupational reinforcer pattern is especially important. As examples:

- clients who are dissatisfied with their current occupation and need assistance to understand the specific sources of dissatisfaction;
- clients who have narrowed career possibilities to several occupations and seek help in choosing one occupation.

If the occupation under consideration is not found on page 2 of the MIQ report or in MOCS II, several alternatives are available for generating an occupational reinforcer pattern. As client "homework," or as a counseling exercise, the client can rate the amount of reinforcement provided by the occupation under

consideration on the twenty reinforcer dimensions. Clients can also interview individuals employed in this occupation to request their assistance in rating the occupational reinforcers. This derived occupational reinforcer pattern can be compared with the client's MIQ profile. This procedure may serve to motivate clients to seek additional information about occupations and to provide structure for exploring occupations.

#### Illustrative Case Summaries

The four case summaries that follow illustrate: (1) characteristics of an MIQ report that are particularly useful for counselor-client MIQ interpretation; (2) some possible interpretations of specific MIQ reports; and (3) examples of how to integrate the MIQ report in vocational counseling. These case summaries assume that the reader has studied the preceding sections of this manual.

The MIQ report and Highlights of the MIQ Report are presented for each case summary. The Highlights, presented in a table format, summarize the essential information derived from the MIQ report for an adequate counselor-client interpretation. Client biographical information that lends support to the MIQ profile is also included in these summary tables. The use of biographical data emphasizes the importance of using corroborative information.

These illustrative case summaries represent only a sampling of the types of MIQ client profiles. It is hoped, however, that the case summaries will be helpful and instructive to counselors not yet acquainted with the MIQ report.

#### Client A

The MIQ report for this 43-year-old woman is shown in Figure 4 and summarized in Table 2. She obtained a certificate from a secretarial school and has been employed for twenty years as a secretary--with the exception of a five-year period in which she left her employment to have and raise a child. During the initial interview she expressed dissatisfaction with her secretarial work which she characterized as tedious and boring. She felt "trapped in this job and frustrated" for a number of reasons. She "worried about the effects of twenty years of clerical duties on her abilities to think and reason." She wondered if she had the abilities to qualify for other types of work, and was unsure about what she wanted from an occupation.

Her estimates of her abilities were much lower than her ability test

Figure 4  
MIQ Report for Client A

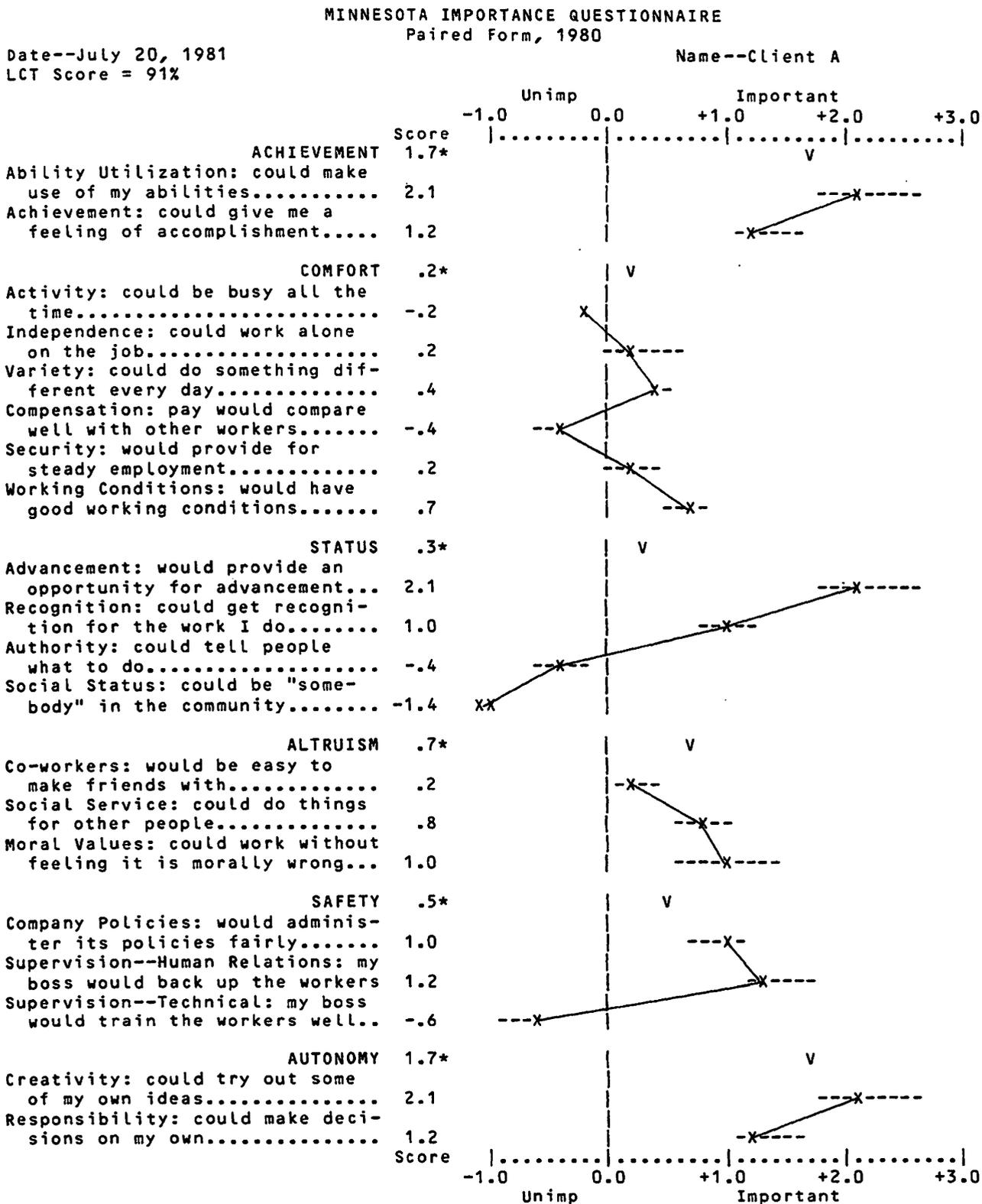


Figure 4, Continued

MINNESOTA IMPORTANCE QUESTIONNAIRE

Correspondence Report for Client A Date: July 20, 1981  
 MIQ profile is compared with Occupational Reinforcer Patterns (ORP'S)  
 for 90 representative occupations. Correspondence is indicated by  
 the C-Index. A prediction of Satisfied (S) results from C values  
 greater than .50, Likely Satisfied (L) for C values between .10 and  
 .49, and Not Satisfied (N) for C values less than .10. Occupations  
 are clustered by similarity of Occupational Reinforcer Pattern.

	C	Pred.		C	Pred.
	Index	Sat.		Index	Sat.
Cluster A (ACH-AUT-Alt)	.53	S	Cluster B (ACH-Com)	.39	L
Architect.....	.70	S	Bricklayer.....	.19	L
Dentist.....	.22	L	Carpenter.....	.44	L
Family Practitioner (M.D.)...	.12	L	Cement Mason.....	.18	L
Interior Designer-Decorator..	.60	S	Elevator Repairer.....	.38	L
Lawyer.....	.34	L	Heavy Equipment Operator.....	.43	L
Minister.....	.36	L	Landscape Gardener.....	.42	L
Nurse, Occupational Health...	.28	L	Lather.....	.31	L
Occupational Therapist.....	.61	S	Millwright.....	.42	L
Optometrist.....	.28	L	Painter/Paperhanger.....	.33	L
Psychologist, Counseling.....	.50	S	Patternmaker, Metal.....	.33	L
Recreation Leader.....	.51	S	Pipefitter.....	.32	L
Speech Pathologist.....	.50	S	Plasterer.....	.23	L
Teacher, Elementary School...	.60	S	Plumber.....	.34	L
Teacher, Secondary School....	.63	S	Roofer.....	.24	L
Vocational Evaluator.....	.65	S	Salesperson, Automobile.....	.48	L
Cluster C (ACH-Aut-Com)	.56	S	Cluster D (ACH-STA-Com)	.66	S
Alteration Tailor.....	.47	L	Accountant, Certified Public..	.62	S
Automobile Mechanic.....	.37	L	Airplane Co-Pilot, Commercial	.06	N
Barber.....	.47	L	Cook (Hotel-Restaurant)....	.54	S
Beauty Operator.....	.67	S	Department Head, Supermarket.	.50	S
Caseworker.....	.59	S	Drafter, Architectural.....	.69	S
Claim Adjuster.....	.65	S	Electrician.....	.50	S
Commercial Artist, Illustrat.	.68	S	Engineer, Civil.....	.75	S
Electronics Mechanic.....	.53	S	Engineer, Time Study.....	.92	S
Locksmith.....	.37	L	Farm-Equipment Mechanic I....	.40	L
Maintenance Repairer, Factory	.49	L	Line-Installer-Repairer (Tel)	.27	L
Mechanical-Engineering Tech..	.74	S	Machinist.....	.52	S
Office-Machine Servicer.....	.45	L	Programmer (Bus., Eng., Sci.)	.64	S
Photoengraver (Stripper)....	.46	L	Sheet Metal Worker.....	.56	S
Sales Agent, Real Estate.....	.57	S	Statistical-Machine Servicer..	.46	L
Salesperson, General Hardware	.36	L	Writer, Technical Publication	.69	S
Cluster E (COM)	.14	L	Cluster F (Alt-Com)	.30	L
Assembler, Production.....	.02	N	Airplane-Flight Attendant....	.05	N
Baker.....	.20	L	Clerk, Gen. Ofc., Civil Svc..	.18	L
Bookbinder.....	.23	L	Dietitian.....	.46	L
Bookkeeper I.....	.24	L	Fire Fighter.....	.23	L
Bus Driver.....	-.02	N	Librarian.....	.53	S
Key-Punch Operator.....	.00	N	Medical Technologist.....	.25	L
Meat Cutter.....	-.04	N	Nurse, Professional.....	.24	L
Post-Office Clerk.....	-.00	N	Orderly.....	.08	N
Production Helper (Food)....	.33	L	Physical Therapist.....	.51	S
Punch-Press Operator.....	.18	L	Police Officer.....	.29	L
Sales, General (Dept. Store)..	.51	S	Receptionist, Civil Service..	.43	L
Sewing-Machine Operator, Auto	.10	L	Secretary (General Office)...	.49	L
Solderer (Production Line)...	.07	N	Taxi Driver.....	.16	L
Telephone Operator.....	.05	N	Telephone Installer.....	.27	L
Teller (Banking).....	.06	N	Waiter-Waitress.....	.20	L

Table 2  
Highlights of the MIQ Report for Client A

Major Characteristic	Comments
General Profile:	Typical profile elevation; differentiated.
LCT Score:	91%, highly logically consistent response pattern.
Important Values:	Achievement and Autonomy.
Preferences for Need-Reinforcers:	Ability utilization, advancement, creativity, achievement, responsibility, supervision-human relations, company policies and practices, moral values, and recognition.
Least Preferred Values/Reinforcers:	Comfort and Status values; social status, supervision-technical, compensation, authority and activity reinforcers.
Most Correspondent Occupational Clusters:	Clusters D, C, and A.
Most Correspondent Occupations:	Engineer, Civil; Engineer, Time Study; Mechanical-Engineering Technician; Architect; Technical Writer; Architectural Drafter; Beauty Operator; Claim Adjuster; Vocational Evaluator; Programmer; Teacher, Secondary; Teacher, Elementary; Occupational Therapist; and Interior Designer.
Least Correspondent Occupational Cluster:	Cluster E.
Least Correspondent Occupations:	Meat Cutter; Bus Driver; Post Office Clerk; Key-punch Operator; Production Assembler; Telephone Operator; Airplane-Flight Attendant; and Bank Teller.
Biographical Data that Lend Support to the MIQ Profile::	Did not like secretarial jobs; participated frequently in individual activities (sports, self-improvement, physical fitness, played musical instruments). High school salutatorian As an only child had varied experiences (such as music and dancing classes). These data may support the Autonomy and Achievement values.

scores. On an ability test battery, she scored above the 90th percentile on general mental ability, in contrast to her estimate of the 40th percentile. Overall, her ability scores exceeded those of workers judged to be satisfactory in most occupations.

As shown in Figure 4, her need profile is distinguished by its high scores on Ability Utilization, Advancement, Creativity, Achievement, Responsibility, Supervision-Human Relations, Company Policies and Practices, Moral Values and Recognition and its low scores on Social Status, Supervision-Technical, Compensation, Authority, and Activity. Her most important values were Achievement and Autonomy; her least important values were Comfort and Status.

Before proceeding with the MIQ interpretation, she and the counselor discussed the meaning of the twenty reinforcers, and she rated the amount of reinforcement provided by her secretarial job. Her ratings were similar to the measured Occupational Reinforcer Pattern for secretary with two exceptions: she rated the Ability Utilization and the Advancement reinforcers as not descriptive of her secretarial job. The discussion of these ratings and her MIQ need profile elicited these observations: (a) her dissatisfaction with the secretarial job was "caused by" insufficient opportunities for advancement (Advancement), recognition for her work (Recognition), trying out her own ideas (Creativity) and making decisions on her own (Responsibility); (b) she works for a company that administers its policies fairly (Company Policies and Practices) and a boss who backs up the workers (Supervision-Human Relations); (c) she would be dissatisfied with any occupation in which opportunities for advancement (Advancement) were not present; and (d) she would not like to be busy all the time (Activity).

After examination of the MIQ correspondence report with the focus on the occupations included in Clusters D, C, A, and in MOCS II, she decided to exclude from consideration those occupations that provided Activity reinforcers and those that did not provide Advancement reinforcers. Also, she excluded occupations that would involve extensive education. After considerable discussion of the alternatives, she decided to explore personnel and sales occupations. It was then suggested that she contact and interview sales and personnel managers, using the knowledge gained about her preferences for occupational reinforcers in these "information interviews."

After she completed her "information interviews," she returned for a final counseling interview. She announced that she had accepted a position as an administrative assistant to a personnel manager, offered during an "information

interview." At follow-up 18 months later, she reported that she was being considered for promotion to assistant personnel manager, had completed some course work toward a business degree, and planned to continue her education.

#### Client B

This 40-year-old man wanted to reassess his career. For twelve years, he had been an industrial research scientist, responsible for instrumentation research and development. He left that position in order to become a technical support and design unit manager in the engineering department. The company was undergoing a reorganization that might affect his position, and before undertaking an extensive job search, he wanted to explore what he considered a persistent conflict between his scientific and his managerial orientations.

While he liked both jobs, he was not completely satisfied with either. His fundamental ambivalence was reflected in his "ideal" career. Despite the fact that he found it difficult to complete his Bachelor of Science degree, he told his counselor that his long-standing ideal was to be a college professor. His difficulties with higher education apparently did not stem from lack of ability. They appeared to be a result of his disinclination to attend classes, to study--in short, to conform to the routine of the student.

Since his early twenties he had wanted to be a college professor. His inventoried interests indicated that he had strong interests in science, mathematics, and teaching, and interests similar to those of physical scientists, engineers and mathematicians.

His MIQ report (see Figure 5), summarized in Table 3, showed a differentiated profile with a slightly-lower-than-usual elevation. His need profile was distinguished by high scores on Recognition, Achievement, Creativity, Responsibility, Advancement, Security and Supervision-Human Relations. Notable were his low need scores on the Social Service, Variety, Independence, Activity and Co-workers scales. His important values were Autonomy, Achievement and Status. His least preferred values were Altruism and Comfort.

Presented with his need profile, he interpreted his autonomy needs (Creativity and Responsibility) as preferences for work activities in which he could exercise power and control. He felt that his Authority score reflected his supervisory style, which did not consist in "telling people what to do," but in "teaching and guiding." His need for Security surprised him.

The client's correspondence report indicated that he would be likely to be

Figure 5  
MIQ Report for Client B

MINNESOTA IMPORTANCE QUESTIONNAIRE  
Paired Form, 1980

Date--July 20, 1981  
LCT Score = 86%

Name--Client B

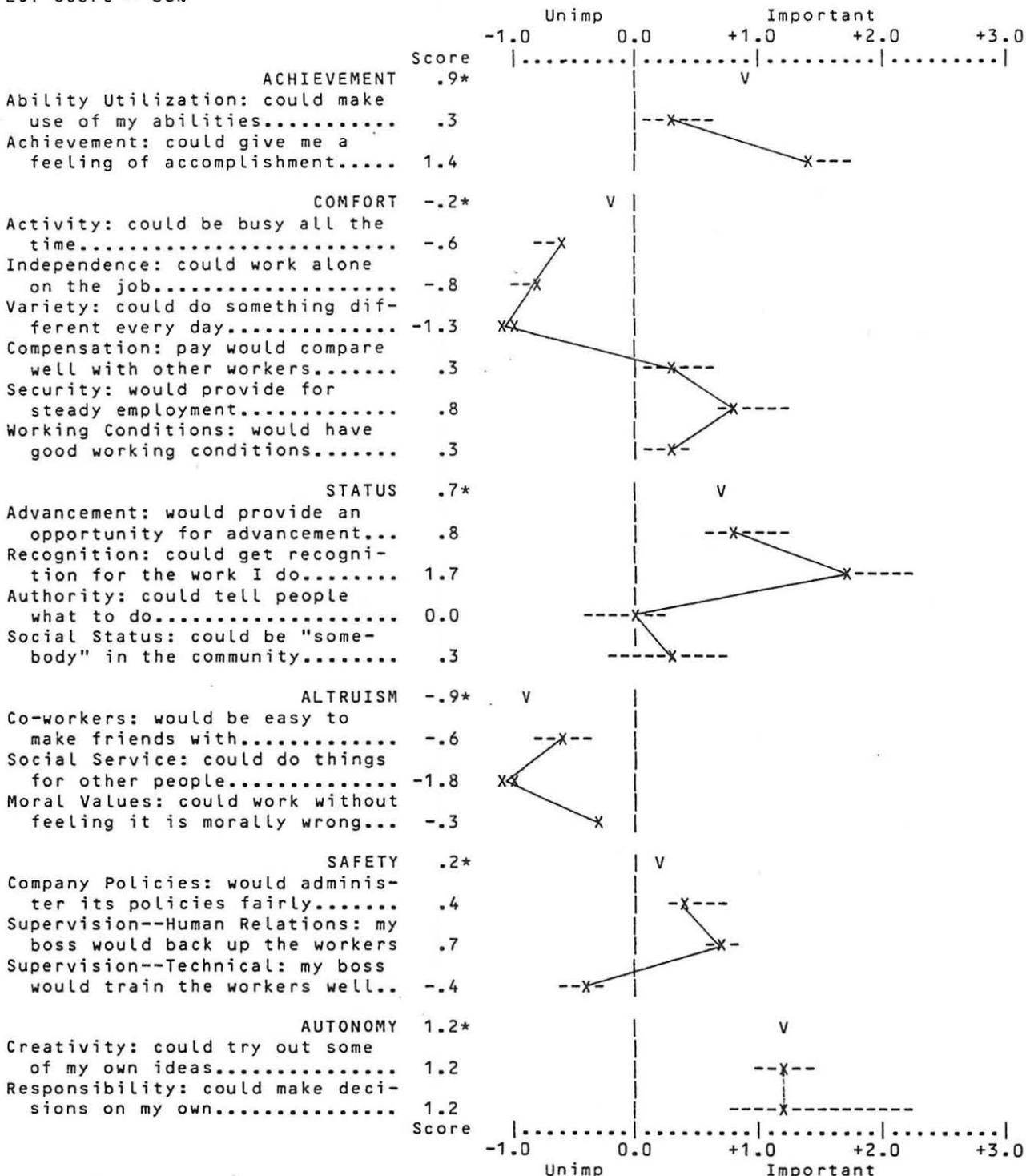


Figure 5, continued

MINNESOTA IMPORTANCE QUESTIONNAIRE

Correspondence Report for Client B Date: July 20, 1981  
 MIQ profile is compared with Occupational Reinforcer Patterns (ORP'S)  
 for 90 representative occupations. Correspondence is indicated by  
 the C-Index. A prediction of Satisfied (S) results from C values  
 greater than .50, Likely Satisfied (L) for C values between .10 and  
 .49, and Not Satisfied (N) for C values less than .10. Occupations  
 are clustered by similarity of Occupational Reinforcer Pattern.

C		Pred.	C		Pred.
Index	Sat.		Index	Sat.	
Cluster A (ACH-AUT-Alt) .08 N			Cluster B (ACH-Com) .17 L		
Architect.....	.31	L	Bricklayer.....	.08	N
Dentist.....	.05	N	Carpenter.....	.35	L
Family Practitioner (M.D.)...-	.03	N	Cement Mason.....	-.01	N
Interior Designer-Decorator..	.18	L	Elevator Repairer.....	.29	L
Lawyer.....	.05	N	Heavy Equipment Operator.....	.29	L
Minister.....	-.00	N	Landscape Gardener.....	-.20	N
Nurse, Occupational Health...-	.06	N	Lather.....	.06	N
Occupational Therapist.....	.10	L	Millwright.....	.30	L
Optometrist.....	.14	L	Painter/Paperhanger.....	.06	N
Psychologist, Counseling.....-	.04	N	Patternmaker, Metal.....	.16	L
Recreation Leader.....	.04	N	Pipefitter.....	.26	L
Speech Pathologist.....	-.03	N	Plasterer.....	.08	N
Teacher, Elementary School... .07		N	Plumber.....	.16	L
Teacher, Secondary School... .04		N	Roofer.....	-.11	N
Vocational Evaluator.....	.23	L	Salesperson, Automobile.....	.45	L
Cluster C (ACH-Aut-Com) .20 L			Cluster D (ACH-STa-Com) .49 L		
Alteration Tailor.....	.04	N	Accountant, Certified Public. .35		L
Automobile Mechanic.....-	.03	N	Airplane Co-Pilot, Commercial .30		L
Barber.....	.23	L	Cook (Hotel-Restaurant).... .51		S
Beauty Operator.....	.17	L	Department Head, Supermarket. .47		L
Caseworker.....	.00	N	Drafter, Architectural.....	.41	L
Claim Adjuster.....	.17	L	Electrician.....	.45	L
Commercial Artist, Illustrat. .35		L	Engineer, Civil.....	.46	L
Electronics Mechanic.....	.24	L	Engineer, Time Study.....	.53	S
Locksmith.....	.06	N	Farm-Equipment Mechanic I.... .25		L
Maintenance Repairer, Factory .15		L	Line-Installer-Repairer (Tel) .33		L
Mechanical-Engineering Tech.. .26		L	Machinist.....	.35	L
Office-Machine Servicer.....	.16	L	Programmer (Bus., Eng., Sci.) .49		L
Photoengraver (Stripper).... .27		L	Sheet Metal Worker.....	.35	L
Sales Agent, Real Estate.....	.10	L	Statistical-Machine Servicer. .38		L
Salesperson, General Hardware- .03		N	Writer, Technical Publication .48		L
Cluster E (COM) .09 N			Cluster F (Alt-Com) -.16 N		
Assembler, Production.....	.17	L	Airplane-Flight Attendant...-.21		N
Baker.....	.27	L	Clerk, Gen. Ofc., Civil Svc...-.16		N
Bookbinder.....	.23	L	Dietitian.....	.18	L
Bookkeeper I.....	.12	L	Fire Fighter.....	.10	L
Bus Driver.....	-.09	N	Librarian.....	-.05	N
Key-Punch Operator.....	-.02	N	Medical Technologist.....	.04	N
Meat Cutter.....	.12	L	Nurse, Professional.....	-.26	N
Post-Office Clerk.....	-.11	N	Orderly.....	-.37	N
Production Helper (Food).... .13		L	Physical Therapist.....	.06	N
Punch-Press Operator.....	.01	N	Police Officer.....	-.16	N
Sales, General (Dept. Store). .14		L	Receptionist, Civil Service..-.34		N
Sewing-Machine Operator, Auto .13		L	Secretary (General Office)...-.17		N
Solderer (Production Line)... .03		N	Taxi Driver.....	-.38	N
Telephone Operator.....	-.03	N	Telephone Installer.....	-.07	N
Teller (Banking).....	-.02	N	Waiter-Waitress.....	-.09	N

Table 3  
Highlights of the MIQ Report for Client B

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Major Characteristic	Comments
General Profile:	Differentiated profile, elevation slightly lower than usual.
LCT Score:	86%, logically consistent choice of preferences.
Important Values:	Autonomy, Achievement, and Status, in that order.
Preferences for Need-Reinforcers:	Recognition, achievement, creativity, responsibility, advancement, security, and supervision-human relations, in that order.
Least Preferred Values/Reinforcers:	Altruism and Comfort values; social service, variety, independence, activity, and co-workers reinforcers.
Most Correspondent Occupational Clusters:	Cluster D; Cluster C is somewhat less correspondent.
Most Correspondent Occupations:	Time-Study Engineer; Cook (Hotel-Restaurant); Programmer; Writer, Technical Publications; Department Head, Supermarket; Civil Engineer; and Salesperson, Automobile.
Least Correspondent Occupational Clusters:	Clusters F, A, and E.
Least Correspondent Occupations:	Taxi Driver; Orderly; Receptionist; Nurse; Airplane-Flight Attendant; Landscape Gardener; Secretary; Police Officer; Clerk, General Office; Post-Office Clerk; and Roofer.
Biographical Data that Lend Support to the MIQ Profile::	Liked jobs best where not supervised and established own routine and pacing; engages most frequently in activities independent of others (Autonomy). Higher-level jobs liked best; likes supervising and training others (Status). College graduate; completed a number of technical training courses (Achievement).

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most satisfied with occupations in Cluster D and likely to be least satisfied with occupations in Clusters F, A, and E. The counselor explained that most technical-managerial occupations are in Cluster D (salient reinforcers of Advancement, Recognition, Security, and Working Conditions), and that most academic (teaching and research) occupations are in Cluster A (salient reinforcers of Responsibility, Creativity, Autonomy, and Social Service). Both Cluster D and A occupations provide Achievement reinforcers.

The counselor then turned the discussion to the possible links between the client's past and future career choices. Particular attention was paid to the reinforcement clusters provided by the client's ideal job, college professor. Of the three most important of these reinforcer clusters--Autonomy, Achievement, and Altruism--only one, Achievement, seemed to be present in the client's profile. His Altruism value score was very low, and his own interpretation of the Autonomy value (see above) was more similar to the standard interpretation of the Status value than to the standard Autonomy interpretation. The counselor further explained that his current career direction toward the managerial occupations would probably provide more of the status reinforcers that were important to him than would the academic occupations.

The client's career decision was based upon his desire to capitalize on his present occupational status and unwillingness to pursue a graduate degree. On follow-up 14 months later, he reported that he was employed at a computer manufacturing firm supervising a staff of twenty-six research technicians and expressed satisfaction with his job.

#### Client C

This 23-year-old single man was uncertain about his educational and career objectives. His peripatetic job history included six different jobs in the preceding five years: life insurance agent, gas station attendant, bus driver, gas-and-oil servicer, auto mechanic helper, and his current job of thermostat assembler. Asked to rate his job satisfaction, he chose either "I liked it" or "I loved it" for five of the six jobs; he "disliked" the life insurance job.

In high school he focused on shop and business courses. He graduated with average grades, enrolled in a vocational-technical school, and completed part of a program in small engine repair. In the initial interview he reported that he was thinking about quitting the two-year community college program in accounting, in which he was enrolled, as he had lost interest in it.

As shown in Figure 6 and summarized in Table 4, his MIQ profile in comparison with males aged 18 to 25 (see MIQ Normative Data, Appendix F) showed an elevated profile with many important needs. His important needs (in rank order) were Social Service, Advancement, Creativity, Variety, Activity, Social Status, Achievement, Recognition, Responsibility, Moral Values, Compensation, Authority and Supervision-Human Relations. Several of his need scores were unusually high: he scored at or above the 95th percentile on the Social Service, Creativity, Activity and Social Status needs and above the 85th percentile on the Advancement, Authority, and Variety needs. Understandably, his value scores were also elevated: his important values were Autonomy, Status, Altruism, Achievement, and Comfort. Only the Supervision-Technical need and the Safety value were unimportant.

As shown in the MIQ report (see Figure 6), his most correspondent Cluster was A; his most correspondent occupations are summarized in Table 4. Most of these occupations, including the Cluster A occupations in the MOCS II, require at least a college degree.

The MIQ need profile and correspondence report were discussed extensively with him. He revealed during interpretation of the need profile that he had rarely participated in activities that provided experience with the Social Service, Advancement, Creativity, Social Status, Recognition, Responsibility and Authority reinforcers because of a physical condition that is aggravated by "stressful" activities. He felt, however, that his completion of a year of accounting demonstrated that he was learning to cope with some stressful situations.

Some of the Cluster A occupations interested him. However, he was concerned about his ability to sustain the effort and interest necessary to earn a college degree. He also doubted whether his abilities would qualify him for the occupations in Cluster A. The counselor agreed with his concerns about his abilities and noted that his employment history did not support his reinforcer preferences and seemed to contradict his correspondence report. He revealed that he had felt some pressure from his parents to enter a "professional" occupation, since they were professionals themselves. This pressure may well have affected his responses to the MIQ items.

His ability test scores reflected the average ability indicated by his academic record and employment history. Comparison of his ability scores with the ability requirements for the Cluster A occupations indicated a low likelihood of



Figure 6, continued

MINNESOTA IMPORTANCE QUESTIONNAIRE

Correspondence Report for Client C Date: July 20, 1981  
 MIQ profile is compared with Occupational Reinforcer Patterns (ORP'S) for 90 representative occupations. Correspondence is indicated by the C-Index. A prediction of Satisfied (S) results from C values greater than .50, Likely Satisfied (L) for C values between .10 and .49, and Not Satisfied (N) for C values less than .10. Occupations are clustered by similarity of Occupational Reinforcer Pattern.

	C	Pred.		C	Pred.
	Index	Sat.		Index	Sat.
Cluster A (ACH-AUT-Alt)			Cluster B (ACH-Com)		
Architect.....	.35	L	Bricklayer.....	-.20	N
Dentist.....	.40	L	Carpenter.....	-.21	N
Family Practitioner (M.D.)... .46	.46	L	Cement Mason.....	-.09	N
Interior Designer-Decorator.. .26	.26	L	Elevator Repairer.....	-.09	N
Lawyer.....	.42	L	Heavy Equipment Operator.....	-.22	N
Minister.....	.48	L	Landscape Gardener.....	.12	L
Nurse, Occupational Health...-.02	-.02	N	Lather.....	-.06	N
Occupational Therapist.....	.30	L	Millwright.....	.07	N
Optometrist.....	.42	L	Painter/Paperhanger.....	-.18	N
Psychologist, Counseling.....	.45	L	Patternmaker, Metal.....	-.29	N
Recreation Leader.....	.40	L	Pipefitter.....	-.20	N
Speech Pathologist.....	.40	L	Plasterer.....	-.22	N
Teacher, Elementary School... .34	.34	L	Plumber.....	-.22	N
Teacher, Secondary School.... .32	.32	L	Roofer.....	-.04	N
Vocational Evaluator.....	.27	L	Salesperson, Automobile.....	-.23	N
Cluster C (ACH-Aut-Com)			Cluster D (ACH-STA-Com)		
Alteration Tailor.....	.05	N	Accountant, Certified Public. .41	.41	L
Automobile Mechanic.....	-.08	N	Airplane Co-Pilot, Commercial-.10	-.10	N
Barber.....	-.15	N	Cook (Hotel-Restaurant).... .-.14	-.14	N
Beauty Operator.....	.14	L	Department Head, Supermarket.-.15	-.15	N
Caseworker.....	.25	L	Drafter, Architectural.....	-.11	N
Claim Adjuster.....	-.02	N	Electrician.....	-.00	N
Commercial Artist, Illustrat. .10	.10	L	Engineer, Civil.....	.24	L
Electronics Mechanic.....	-.23	N	Engineer, Time Study.....	.17	L
Locksmith.....	.05	N	Farm-Equipment Mechanic I.... .04	.04	N
Maintenance Repairer, Factory-.02	-.02	N	Line-Installer-Repairer (Tel)-.26	-.26	N
Mechanical-Engineering Tech.. .15	.15	L	Machinist.....	-.27	N
Office-Machine Servicer.....	-.15	N	Programmer (Bus., Eng., Sci.) .20	.20	L
Photoengraver (Stripper).....	-.28	N	Sheet Metal Worker.....	-.15	N
Sales Agent, Real Estate.....	.19	L	Statistical-Machine Servicer.-.17	-.17	N
Salesperson, General Hardware .02	.02	N	Writer, Technical Publication .07	.07	N
Cluster E (COM)			Cluster F (Alt-Com)		
Assembler, Production.....	-.57	N	Airplane-Flight Attendant.... .07	.07	N
Baker.....	-.32	N	Clerk, Gen. Ofc., Civil Svc.-.18	-.18	N
Bookbinder.....	-.39	N	Dietitian.....	.13	L
Bookkeeper I.....	-.29	N	Fire Fighter.....	-.06	N
Bus Driver.....	-.45	N	Librarian.....	.25	L
Key-Punch Operator.....	-.33	N	Medical Technologist.....	-.12	N
Meat Cutter.....	-.43	N	Nurse, Professional.....	.29	L
Post-Office Clerk.....	-.32	N	Orderly.....	-.11	N
Production Helper (Food).....	-.34	N	Physical Therapist.....	.23	L
Punch-Press Operator.....	-.43	N	Police Officer.....	.09	N
Sales, General (Dept. Store)-.09	-.09	N	Receptionist, Civil Service.. .30	.30	L
Sewing-Machine Operator, Auto-.47	-.47	N	Secretary (General Office)... .05	.05	N
Solderer (Production Line)....-.48	-.48	N	Taxi Driver.....	-.13	N
Telephone Operator.....	-.24	N	Telephone Installer.....	-.15	N
Teller (Banking).....	-.36	N	Waiter-Waitress.....	-.27	N

Table 4  
Highlights of the MIQ Report for Client C

Major Characteristic	Comments
General Profile:	Elevated profile; many important needs.
LCT Score:	83%, logically consistent choice of preferences.
Important Values:	Autonomy, Status, Altruism, Achievement, and Comfort, in that order.
Preferences for Need-Reinforcers:	Social service, advancement, creativity, variety, activity, social status, achievement, recognition, responsibility, moral values, compensation, authority, and supervision-human relations, in that order.
Least Preferred Values/Reinforcers:	Safety value; supervision-technical need-reinforcer.
Most Correspondent Occupational Cluster:	Cluster A.
Most Correspondent Occupations:	Minister; Family Practitioner (M.D.); Counseling Psychologist; Lawyer; Optometrist; Certified Public Accountant; Dentist; Recreation Leader; and Speech Pathologist.
Least Correspondent Occupational Clusters:	Clusters E, B, F, C, and D, in that order.
Least Correspondent Occupations:	Production Assembler; Solderer; Sewing-Machine Operator; Bus Driver; Meat Cutter; Punch Press Operator; Bookbinder; Bank Teller; Production Helper; Key-Punch Operator; Baker; and Postal Clerk.
Biographical Data that Lend Support to the MIQ Profile::	None. To the contrary, restricted educational and occupational history and restricted physical activities indicate a reinforcement history that would not be consistent with the client's MIQ profile.

satisfactory performance in these occupations. Since he had reported satisfaction with jobs that were located in Cluster E, the counselor suggested that he look at those occupations, choose several that interested him, and gather information about them. Cluster E occupations are supported by his ability scores.

Gathering information on Cluster E occupations helped him narrow his choices to three: baker, truck driver and digital-computer operator (see Appendix D for Cluster E occupations). There was considerable discussion of the occupational information he had obtained from friends and employers. He now indicated that his parents were supportive of his vocational plans.

Although no decision was made during the final interview, he did subsequently obtain a job driving a delivery truck. On follow-up one year later, he reported that he was very satisfied with this job and that he was active in union affairs with plans to become a union steward.

This case illustrates the need for the counselor to explore other information such as ability information, employment history, satisfaction with previous employment, test-taking response set and other indicators of reinforcement history. This case summary also illustrates two important principles about the use of tests in counseling: (1) inconsistencies between different kinds of information must be explored and (2) no instrument should be used in isolation.

#### Client D

This 35-year-old married woman, the mother of three children, ages two, seven and nine years, requested assistance in planning for re-entry into the job market with a long-term career goal in mind.

She had attended several colleges, completed an education degree and obtained a teaching certificate. She taught elementary school and later worked in a social service agency for exceptional children. When her husband relocated, she left the teaching profession and held a variety of part-time nonprofessional jobs.

Her MIQ report (see Figure 7), summarized in Table 5, shows an elevated profile with only two unimportant vocational needs. Her high LCT score and differentiated needs profile and her age and varied employment history suggest a well defined and highly stable set of reinforcer preferences. Persons with such a stable and elevated profile may require a highly correspondent work environment or one that is highly reactive (i.e., an environment that will accommodate the worker). Her high LCT score suggests low flexibility, that is, a low toler-

Figure 7  
MIQ Report for Client D

MINNESOTA IMPORTANCE QUESTIONNAIRE  
Paired Form, 1980

Date--July 20, 1981  
LCT Score = 92%

Name--Client D

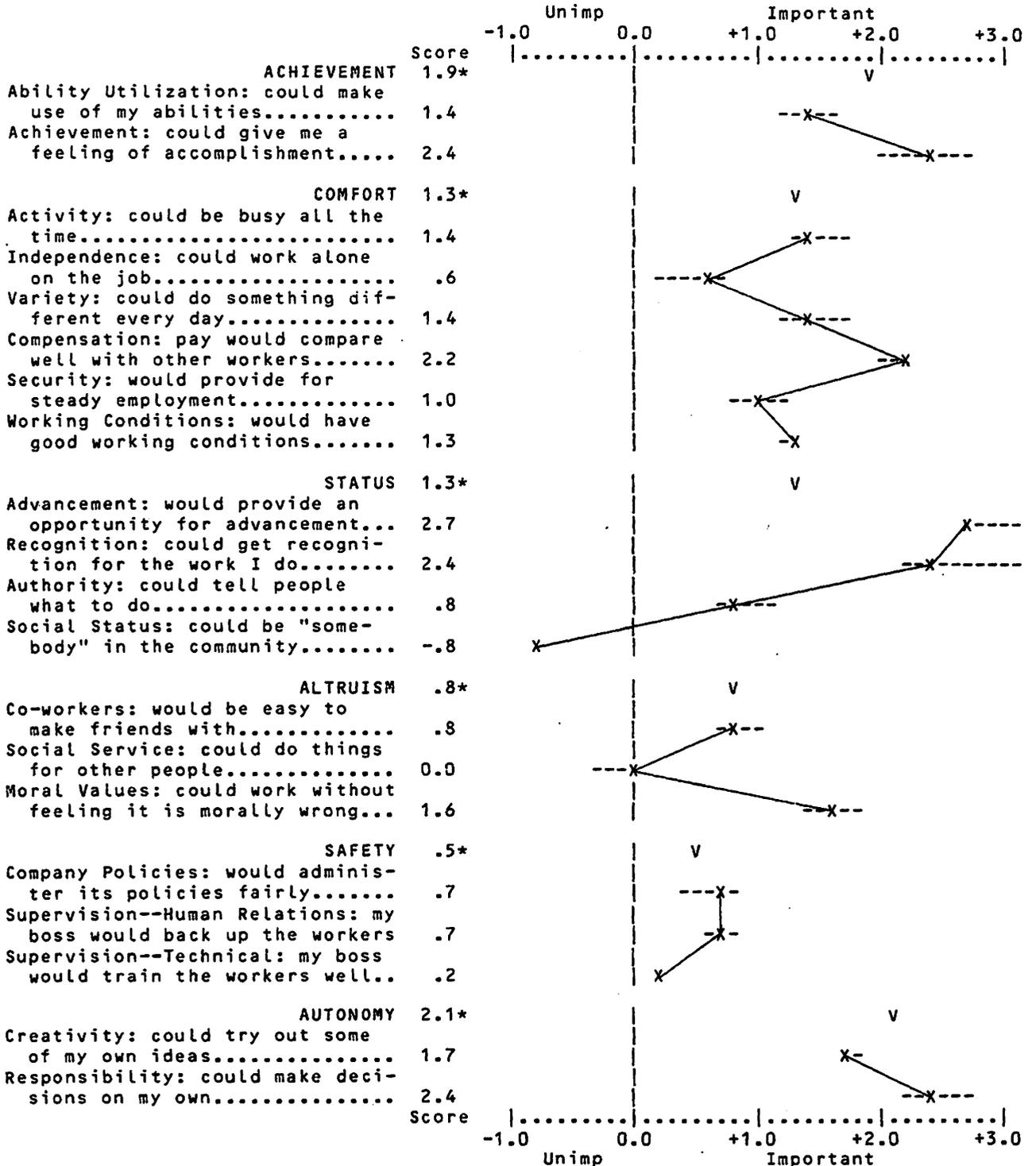


Figure 7, continued

MINNESOTA IMPORTANCE QUESTIONNAIRE

Correspondence Report for Client D Date: July 20, 1981  
 MIQ profile is compared with Occupational Reinforcer Patterns (ORP'S) for 90 representative occupations. Correspondence is indicated by the C-Index. A prediction of Satisfied (S) results from C values greater than .50, Likely Satisfied (L) for C values between .10 and .49, and Not Satisfied (N) for C values less than .10. Occupations are clustered by similarity of Occupational Reinforcer Pattern.

	C	Pred.		C	Pred.
	Index	Sat.		Index	Sat.
Cluster A (ACH-AUT-Alt)	.27	L	Cluster B (ACH-Com)	.51	S
Architect.....	.39	L	Bricklayer.....	.34	L
Dentist.....	.24	L	Carpenter.....	.51	S
Family Practitioner (M.D.)...	.22	L	Cement Mason.....	.41	L
Interior Designer-Decorator..	.42	L	Elevator Repairer.....	.59	S
Lawyer.....	.41	L	Heavy Equipment Operator.....	.54	S
Minister.....	.05	N	Landscape Gardener.....	.28	L
Nurse, Occupational Health...	.03	N	Lather.....	.50	S
Occupational Therapist.....	.30	L	Millwright.....	.61	S
Optometrist.....	.29	L	Painter/Paperhanger.....	.38	L
Psychologist, Counseling.....	.23	L	Patternmaker, Metal.....	.50	S
Recreation Leader.....	.16	L	Pipefitter.....	.51	S
Speech Pathologist.....	.23	L	Plasterer.....	.35	L
Teacher, Elementary School...	.21	L	Plumber.....	.40	L
Teacher, Secondary School....	.16	L	Roofer.....	.36	L
Vocational Evaluator.....	.40	L	Salesperson, Automobile.....	.40	L
Cluster C (ACH-Aut-Com)	.41	L	Cluster D (ACH-STA-Com)	.59	S
Alteration Tailor.....	.42	L	Accountant, Certified Public..	.52	S
Automobile Mechanic.....	.12	L	Airplane Co-Pilot, Commercial	.30	L
Barber.....	.16	L	Cook (Hotel-Restaurant)....	.40	L
Beauty Operator.....	.27	L	Department Head, Supermarket.	.58	S
Caseworker.....	.26	L	Drafter, Architectural.....	.51	S
Claim Adjuster.....	.41	L	Electrician.....	.51	S
Commercial Artist, Illustrat.	.59	S	Engineer, Civil.....	.59	S
Electronics Mechanic.....	.40	L	Engineer, Time Study.....	.62	S
Locksmith.....	.19	L	Farm-Equipment Mechanic I....	.32	L
Maintenance Repairer, Factory	.39	L	Line-Installer-Repairer (Tel)	.21	L
Mechanical-Engineering Tech..	.50	S	Machinist.....	.51	S
Office-Machine Servicer.....	.35	L	Programmer (Bus., Eng., Sci.)	.59	S
Photoengraver (Stripper)....	.48	L	Sheet Metal Worker.....	.56	S
Sales Agent, Real Estate.....	.40	L	Statistical-Machine Servicer.	.39	L
Salesperson, General Hardware	.15	L	Writer, Technical Publication	.62	S
Cluster E (COM)	.14	L	Cluster F (Alt-Com)	.06	N
Assembler, Production.....	.07	N	Airplane-Flight Attendant....	-.08	N
Baker.....	.32	L	Clerk, Gen. Ofc., Civil Svc..	.03	N
Bookbinder.....	.30	L	Dietitian.....	.22	L
Bookkeeper I.....	.21	L	Fire Fighter.....	-.03	N
Bus Driver.....	-.20	N	Librarian.....	.27	L
Key-Punch Operator.....	.09	N	Medical Technologist.....	.13	L
Meat Cutter.....	.13	L	Nurse, Professional.....	-.06	N
Post-Office Clerk.....	-.02	N	Orderly.....	-.19	N
Production Helper (Food)....	.34	L	Physical Therapist.....	.25	L
Punch-Press Operator.....	.24	L	Police Officer.....	-.05	N
Sales, General (Dept. Store).	.39	L	Receptionist, Civil Service..	.18	L
Sewing-Machine Operator, Auto	.10	L	Secretary (General Office)...	.20	L
Solderer (Production Line)...	.09	N	Taxi Driver.....	-.15	N
Telephone Operator.....	-.01	N	Telephone Installer.....	.07	N
Teller (Banking).....	-.07	N	Waiter-Waitress.....	.10	L

Table 5  
Highlights of the MIQ Report for Client D

Major Characteristic	Comments
General Profile:	Elevated profile; differentiated; only 2 scores at zero or lower.
LCT Score:	92%, highly logically consistent choice of preferences.
Important Values:	Autonomy, Achievement, Comfort and Status (tied), in that order.
Preferences for Need-Reinforcers:	Advancement; achievement, recognition, and responsibility (tied); compensation, creativity, and moral values. All these reinforcers are highly important.
Least Preferred Values/Reinforcers:	Safety value; social status and social service need reinforcers.
Most Correspondent Occupational Clusters:	Clusters D and B.
Most Correspondent Occupations:	Time-Study Engineer; Technical Writer; Millwright; Commercial Artist/Illustrator; Programmer; Elevator Repairer; Department Head; Sheet Metal Worker; Heavy Equipment Operator; Certified Public Accountant; Carpenter; Pipefitter; Architectural Drafter; Electrician; and Machinist.
Least Correspondent Occupational Clusters:	Clusters F and E.
Least Correspondent Occupations:	Bus Driver; Orderly; Taxi Driver; Flight Attendant; Bank Teller; Professional Nurse; Police Officer; Firefighter; Post-Office Clerk; and Telephone Operator.
Biographical Data that Lend Support to the MIQ Profile::	Worked without supervision in self-directed jobs; prefers self-reinforcing hobbies, such as painting, reading, playing musical instruments (Autonomy); won awards, completed college degree (Achievement, Status).

ance for discordance with the work environment. Her elevated need profile may indicate high pace (high energy level). However, such interpretations should be supported by other data, such as biographical data, test scores, and interview behavior. For example, during the MIQ interpretation she noted that she had tolerated a previous teaching job for two years even though she was not satisfied with the working conditions. She felt that this job provided neither adequate opportunities for advancement and recognition nor opportunities to develop and implement her own ideas. She continued working at the job only because her supervisors gave her a pay raise and additional job responsibilities. The interpretation of high pace was supported by additional data. When discussing her work history, she reported that "I am hard-working and ambitious, and give 150 percent at whatever I am doing." On her biographical information form she reported a high level of activity: membership in six different organizations, participation in numerous avocational activities, and social contact with 15 to 20 people per week.

As shown in Figure 6, her need profile is notable for its high scores on Advancement, Achievement, Recognition, Responsibility, Compensation, Creativity and Moral Values. Also notable are her low scores on the Social Service and Social Status scales. On the value scales she scored highest on Autonomy, Achievement, Comfort, and Status, and lowest on Altruism and Safety. The correspondence report indicated that her needs are consonant with the occupational reinforcers in Cluster D and B.

In discussing her need scores, she indicated that the Autonomy reinforcers were essential for her to be satisfied with an occupation. She interpreted her high Compensation need as a tangible expression of her needs for Advancement and Recognition. She expressed surprise at her low need score for Social Service, because she enjoyed contact with people and this was supported by her scores on the Holland scales. The counselor noted that most social service occupations were in Cluster A and Cluster F, but her most correspondent clusters were B and D which also included occupations with people contact (e.g., business management and sales).

After considerable exploration of occupational opportunities both with the counselor and on her own, she narrowed her occupational options to public relations, customer relations, advertising, and sales. On follow-up one year later, she reported that she was successfully employed as a convention coordinator for a hotel corporation. She was thoroughly satisfied with her job.

Special Questions about the MIQ

1. Why is the paired form of the MIQ so repetitious?

Actually, no item, i.e., pair of statements, is repeated. However, each scale statement is paired with every other scale statement, to give the individual a chance to choose among all possible pairs. Each scale statement, therefore, appears 19 times, in 19 different items (pairs of statements). This is what gives the MIQ an appearance of being repetitious.

2. Why does the MIQ focus on "Ideal Job" instead of "Present Job?"

Besides the fact that there may not always be a "present job," the MIQ is designed to get at an individual's preferences for reinforcing conditions in the broad context of work generally, rather than in the limited context of a specific job.

3. How were the MIQ scale statements selected?

From studies of job satisfaction. Statements that were representative of conditions that were important for the satisfaction of different groups of workers were identified. An effort was made to include a wide variety of conditions with relevance for a wide variety of workers and to avoid duplication of statements.

4. Is it possible for a client to respond differently to specific MIQ need statements in the later portions of the questionnaire?

No, although it may appear this way to a client. Actually, although a single statement appears 19 times in the MIQ, it is paired with a different statement each time so that a different judgment of preference is required each time.

5. How reliable are the ORPs that are used with the MIQ?

ORPs are quite reliable because they represent average ratings from qualified raters in different locations for the same carefully defined occupation. Specific jobs may vary somewhat from the average ratings but not enough to impair the usefulness of the ORPs. Obviously, ORPs may change, with technological change, over time. ORPs, therefore, should be checked periodically for accuracy.

6. Why is there an Autonomy scale for ORPs and not for the paired form of the MIQ?

The method used to develop ORPs required exactly 21 scales and the paired form of the MIQ had already been standardized using 20 scales. The ranked

form of the MIQ, however, does have an Autonomy Scale.

7. Is there any way to relate paired form MIQ scores to the ORP Autonomy scale?  
Yes, by using the Autonomy value cluster which consists of the Creativity and Responsibility scales of the MIQ.
8. What is the meaning of the numbers printed in the lower left-hand corner of the first page of the MIQ report?  
They are identification numbers used by the scoring service (Vocational Psychology Research) to insure accurate processing.
9. Are needs the same as interests?  
No, not quite. Needs are preferences for reinforcers (conditions in which activity results in satisfaction), while interests are preferences for activities (which in turn may provide satisfaction given the right conditions). Needs are related to interests. Needs might be inferred from interests that are acted upon.
10. Are needs the same as values?  
No. Values are more basic than needs in the sense that a value is the common underlying core of a group of needs.
11. Are needs related to abilities?  
Not in a direct or simple way. People with the same abilities do not all have the same needs and people with the same needs do not all have the same abilities. However, needs and abilities in particular combinations are found for people who are well adjusted in specific occupations.
12. How stable are needs?  
Very stable. This does not mean that they are unchangeable. Needs are a product of experience. The more the experience, the more stable the needs will be. New, i.e., different, experiences can, of course, result in some change in scores.
13. Are there other systems for assessing needs?  
Yes, e.g., those of Murray, Super, and Maslow. In addition, a counselor may have developed a personal system for examining needs. The important thing is for the counselor to have a system, some systematic way of assessing needs.
14. How well does MIQ-ORP correspondence predict satisfaction in an occupation?  
Studies for different occupations, ranging from the unskilled level to the professional level, and follow-up studies of counseled clients show a relationship between MIQ-ORP correspondence and job satisfaction. The bet-

ter the correspondence between the individual's MIQ and an ORP (i.e., the higher the C-index) the more confident one can be of the individual being satisfied. If the MIQ report shows a C-index in the "S" (Predicted Satisfied) range, the chances of satisfaction may be estimated at about 7 in 10 or better.

15. Is it necessary to develop local norms for the MIQ?

No. In the case of needs the individual is the "norm group." MIQ scale scores are always interpreted in relation to other scale scores for the particular individual. However, norms can be useful in identifying unusual scale scores for purposes of further exploration with the individual.

16. How useful is the MIQ if there is no ORP for an occupation that is being considered?

It can be quite useful. The MIQ, in such a case, serves to identify the reinforcers that should be present if the individual is to be satisfied. This, in turn, can be used to focus exploration on other information about the occupation's reinforcer characteristics, i.e., if you don't have an ORP you can construct its equivalent.

17. Why are the scores on Social Status and Authority typically low?

One reason might be that the scales are perceived to be too authoritarian and too status-oriented to be socially acceptable. On the other hand, they may not be as important to many people as other needs. If not contradicted by other data, e.g., biographical history, the scores are best taken as valid indicators.

18. What does it mean when all the C-indexes fall in the "N" range?

It just means that no ORP is available for an occupation that will be satisfying to this individual; it should not be taken to mean that there is no occupation that would be satisfying to this individual.

19. What does it mean when a counselee's expressed career interests appear to contradict predictions based on MIQ-ORP correspondence?

If the individual's MIQ is valid, the discrepancy may reflect a different perception by the individual of the occupational reinforcer system than is given by the ORP raters who are close to the job. Another possibility is that the counselee's responses to the MIQ reflect what is felt to be socially acceptable or desirable rather than what is really preferred. In either case, further exploration is indicated.

20. How do you explain S's for unskilled and semiskilled occupations to high ability people?

ORPs have been developed for different levels (as well as fields) of occupations. Similar needs may be satisfied by reinforcers in occupations at different ability-requirement levels. Counselors may wish to indicate to high-ability clients that the ORPs were developed to sample the full range of occupations.

21. What if measured interests conflict with the MIQ?

The MIQ and interest inventories are designed to measure different things. Measured interests may reflect either abilities or needs, or both. When measured interests conflict with the MIQ they may be reflecting interests based on abilities but not needs.

22. What is the meaning of the zero point?

The zero point is the dividing line between what is important and what is not important to the individual. It is derived from answers given to the absolute judgment section (the last 20 items on the paired form, and the last 21 items on the ranked form). Above the zero point, MIQ scores indicate the relative importance of particular needs. Scores below zero indicate needs that are not important.

23. Are more ORPs being developed?

Yes. This is a continuing process. As new ORPs become available they will be incorporated into the MIQ reporting system and into the MOCS II.

24. What materials are necessary to make the most effective counseling use of the MIQ?

The following references will be useful:

- a. Dawis, R. V., Lofquist, L. H., & Weiss, D. J. A theory of work adjustment (a revision). Minnesota Studies in Vocational Rehabilitation: I, 1968.
- b. Lofquist, L. H., & Dawis, R. V. Adjustment to work. New York, Appleton Century Crofts, 1969.
- c. Lofquist, L. H., & Dawis, R. V. Vocational needs, work reinforcers, and job satisfaction. Vocational Guidance Quarterly, 1975, 24, 132-139.
- d. Borgen, F. H., Weiss, D. J., Tinsley, H. E. A., Dawis, R. V., & Lofquist, L. H. Occupational Reinforcer Patterns: I. Minneapolis:

Vocational Psychology Research, Department of Psychology, University of Minnesota, 1972.

- e. Rosen, S. D., Hendel, D. D., Weiss, D. J., Dawis, R. V., & Lofquist, L. H. Occupational Reinforcer Patterns: II. Minneapolis: Vocational Psychology Research, Department of Psychology, University of Minnesota, 1972.
- f. Dawis, R. V., Lofquist, L. H., Henly, G. A., & Rounds Jr., J. B. Minnesota Occupational Classification System II, Minneapolis: Vocational Psychology Research, Work Adjustment Project, Department of Psychology, University of Minnesota, 1979.

**APPENDICES**

Appendix A  
Sample Pages of the MIQ Paired Form

*Directions*

The purpose of this questionnaire is to find out what you consider **important** in your **ideal job**, the kind of job you would most like to have.

On the following pages you will find **pairs** of statements about work.

- Read each **pair** of statements carefully.
- Decide which statement of the **pair** is **more** important to you in your **ideal** job.
- For each pair mark your choice on the answer sheet. **Do not mark this booklet.** (Directions on how to mark the answer sheet are given below.)

Do this for **all** pairs of statements. Work as rapidly as you can. Read each pair of statements, mark your choice, then move on to the next pair. Be sure to make a choice for **every** pair. **Do not** go back to change your answer to any pair.

Remember: You are to decide which statement of the pair is **more important** to **you** in your **ideal** job. Mark your choice on the answer sheet, **not** on this booklet.

*How to Mark the Answer Sheet*

**First of all**

Print your name in the space provided, and fill in the other information requested.

**To fill in the answer sheet**

Start where it is marked "Page 1."

There is a box for each pair of statements. The number in the middle of the box is the number of that pair. "a" and "b" in the box stand for the two statements of the pair.

If you think statement "a" is more important to you than statement "b", mark an "X" over the "a" on the answer sheet, as shown in the example below:

page <b>1</b>	<del>a</del>	a	a
	1	2	3
	b	b	b

However, if you think statement "b" is more important to you than statement "a", mark an "X" over the "b" on the answer sheet, as shown in the example below:

page <b>1</b>	a	a	a
	1	2	3
	<del>b</del>	b	b

**Mark Only One Answer for Each Pair of Statements.**

Mark **either** "a" or "b" for each pair. **Do this for all pairs of statements.** Remember, **do not** mark your answer on this booklet. Use the answer sheet.

Ask yourself: Which is **more important** to me in my **ideal** job?

1. a. I could be busy all the time.  
OR  
b. The job would provide an opportunity for advancement.
2. a. I could try out some of my own ideas.  
OR  
b. My co-workers would be easy to make friends with.
3. a. The job could give me a feeling of accomplishment.  
OR  
b. I could do something that makes use of my abilities.
4. a. The company would administer its policies fairly.  
OR  
b. I could be busy all the time.
5. a. I could try out some of my own ideas.  
OR  
b. I could be "somebody" in the community.
6. a. The job would provide an opportunity for advancement.  
OR  
b. My co-workers would be easy to make friends with.
7. a. I could tell people what to do.  
OR  
b. I could work alone on the job.
8. a. I could get recognition for the work I do.  
OR  
b. The company would administer its policies fairly.
9. a. My co-workers would be easy to make friends with.  
OR  
b. The job would provide for steady employment.
10. a. The job could give me a feeling of accomplishment.  
OR  
b. The job would provide an opportunity for advancement.
11. a. My boss would train the workers well.  
OR  
b. I could work alone on the job.
12. a. I could do the work without feeling that it is morally wrong.  
OR  
b. The job would have good working conditions.

Appendix B  
Sample Pages of the MIQ Ranked Form

**DIRECTIONS**

The purpose of this questionnaire is to find out what you consider **important** in your **ideal job**, the kind of job you would most like to have.

On the following pages are **groups** of five statements about work.

- Read each group of statements carefully.
- Rank the five statements in each group in terms of their **importance** to you in your **ideal job**.
- Use the number "1" for the statement which is **most important** to you in your **ideal job**, the number "2" for the statement which is **next most important** to you, and so on.
- Use the number "5" for the statement **least important** to you in your **ideal job**.
- Write down your rankings in the correct spaces on the answer sheet.

Please turn to the next page for instructions on how to mark your answer sheet.

On your answer sheet enter your rankings of statements for each group.  
Remember: "1" = most important to you in your ideal job; "2" = next most important,  
and so on, to "5" for least important to you in your ideal job.

---

group  
1

On my ideal job . . .

- a. I could be busy all the time.
  - b. I could do things for other people.
  - c. I could try out some of my own ideas.
  - d. my pay would compare well with that of other workers.
  - e. the job would provide an opportunity for advancement.
- 

group  
2

On my ideal job . . .

- a. I could do things for other people.
  - b. I could do something different every day.
  - c. the job could give me a feeling of accomplishment.
  - d. my boss would train the workers well.
  - e. the company would administer its policies fairly.
- 

group  
3

On my ideal job . . .

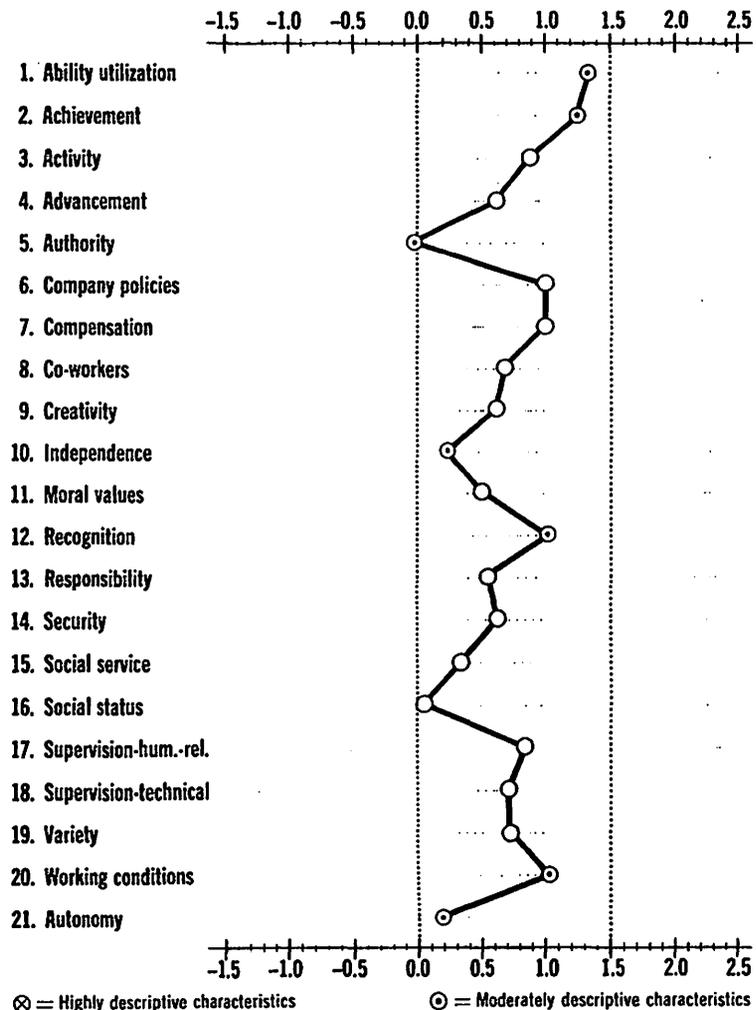
- a. I could do the work without feeling that it is morally wrong.
  - b. my boss would back up the workers (with top management).
  - c. I could do something different every day.
  - d. I could do something that makes use of my abilities.
  - e. I could be busy all the time.
- 

group  
4

On my ideal job . . .

- a. the company would administer its policies fairly.
  - b. I could try out some of my own ideas.
  - c. I could do something that makes use of my abilities.
  - d. my co-workers would be easy to make friends with.
  - e. I could be "somebody" in the community.
-

**Carpenter**  
(N = 39 Supervisors)



**Carpenter**  
(N = 39 Supervisors)

O.A.P. = 37

1965 D.O.T. = 860.381  
1977 D.O.T. = 860.381-022

**Descriptive Characteristics**

- Make use of their individual abilities
- Get a feeling of accomplishment
- Have good working conditions
- Receive recognition for the work they do
- Do not tell other workers what to do
- Do not plan their work with little supervision
- Do not do their work alone

**Occupations with Similar ORPs**

- |  |                          |
|--|--------------------------|
| Air-Conditioning Mechanic<br>(Commercial and Domestic) | Photoengraver (Stripper) |
| Electrician  | Pipefitter               |
| Elevator Repairman                                     | Plumber                  |
| Furnace Installer-and-Repairman                        | Repossessor              |
| Glazier (Glass Installer)                              | Salesman, Automobile     |
| Maintenance Man, Factory or Mill                       | Sheet Metal Worker       |
| Painter/Paperhanger                                    | Tile Setter (Ceramic)    |
| Patternmaker, Metal                                    | Tool-and-Die Maker       |
|  | Welder, Combination      |

**Summary Statistics**

	Adjusted Value	-1 SE	+1 SE	P	Q	Unadj. Value
1. Ability utilization	1.31	1.24	1.39	.03	4.05	.67
2. Achievement	1.24	1.17	1.32	0.00	3.75	.60
3. Activity	.89	.77	1.02	.21	1.71	.25
4. Advancement	.61	.50	.72	.26	1.23	-.04
5. Authority	-.01	-.10	.08	.67	.02	-.65
6. Company policies	1.00	.92	1.08	.03	2.64	.35
7. Compensation	1.00	.90	1.10	.08	2.33	.35
8. Co-workers	.69	.60	.77	.05	1.67	.04
9. Creativity	.61	.52	.70	.15	1.44	-.04
10. Independence	.22	.11	.32	.62	.45	-.43
11. Moral values	.50	.37	.62	.15	.90	-.15
12. Recognition	1.01	.94	1.10	.05	2.72	.37
13. Responsibility	.55	.46	.64	.31	1.27	-.09
14. Security	.62	.48	.76	.38	1.04	-.03
15. Social service	.33	.22	.43	.38	.67	-.32
16. Social status	.05	-.07	.15	.49	.09	-.60
17. Supervision-hum.-rel.	.85	.76	.94	.10	2.04	.21
18. Supervision-technical	.72	.63	.81	.21	1.65	.07
19. Variety	.73	.64	.82	.28	1.69	.08
20. Working conditions	1.05	.97	1.14	.08	2.70	.40
21. Autonomy	.20	.09	.31	.69	.40	-.45
Adjusted neutral point	0.000	-.049	.048			
Unadjusted neutral point	-.045	-.695	-.598			

Appendix D

Occupations with ORPs

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---

Cluster A

Architect  
Counselor, School  
Counselor, Vocational Rehabilitation  
Dentist  
Family Practitioner (M.D.)  
Instructor, Physical Education  
Instructor, Vocational School  
Instructor, Vocational Training  
(Business School)  
Interior Designer and Decorator  
Lawyer  
Minister  
Newspaper Publisher (Weekly and  
Semi-Weekly)  
Nurse, Staff, Occupational Health  
Nursing  
Occupational Therapist  
Optometrist  
Principal, Night School  
Psychologist, Clinical  
Psychologist, Counseling  
Psychologist, Industrial-Organizational  
Psychologist, School  
Recreation Leader  
Speech Pathologist  
Teacher, Adult Education  
Teacher, Adult Education (Agriculture)  
Teacher, Elementary School  
Teacher, Secondary School  
Teacher, Secondary School (Agriculture)  
Veterinarian  
Vocational Evaluator

Cluster B

Bricklayer  
Carpenter  
Cement Mason  
Elevator Repairer  
Heavy Equipment Operator (Construction)  
Landscape Gardener  
Lather  
Millwright  
Painter/Paperhanger  
Patternmaker, Metal  
Pipefitter  
Plasterer  
Plumber  
Roofer  
Salesperson, Automobile

Cluster C

Air-Conditioning Mechanic (Commercial  
and Domestic)  
Alteration Tailor  
Automobile-Body Repairer  
Automobile Mechanic  
Barber  
Beauty Operator  
Caseworker  
Claim Adjuster  
Collector (Bill Collector)  
Commercial Artist, Illustrating  
Counselor, Private Employment Agency  
Electrical Technician  
Electronics Mechanic  
Engineer, Stationary  
Engineering Department Chief  
Floral Designer (Florist)  
Furnace Installer-and-Repairer  
Furniture Upholsterer  
Glazier (Glass Installer)  
Locksmith  
Maintenance Repairer, Factory or Mill  
Mechanical-Engineering Technician  
Office-Machine Servicer  
Photoengraver (Stripper)  
Photographer, Commercial  
Presser, Machine  
Process Artist  
Repossessor  
Sales Agent, Life Insurance  
Sales Agent, Real Estate  
Sales Agent, Securities  
Salesperson, Furniture  
Salesperson, General Hardware  
Salesperson, Sporting Goods  
Sales Route Driver  
Shoe Repairer  
Television Service-and-Repair  
Tile Setter (Ceramic)  
Tool-and-Die Maker

Cluster D

Accountant, Certified Public  
Accountant, Cost  
Airplane Pilot, Commercial (Co-Pilot)  
Cash-Register Servicer  
Claim Examiner  
Cook (Hotel-Restaurant)  
Co-op Sales and Service Person

---

Occupations with ORPs (continued)

Cluster D (continued)

Department Head, Supermarket  
Drafter, Architectural  
Electrical Engineer  
Electrician  
Engineer, Civil  
Engineer, Mechanical  
Engineer, Time Study  
Farm-Equipment Mechanic I  
Line-Installer-Repairer (Telephone)  
Lithographic Press-Feeder  
Machinist  
Programmer (Business, Engineering  
and Science)  
Salesperson, Shoe  
Screw-Machine Operator, Production  
Sheet Metal Worker  
Statistical-Machine Servicer  
Statistician, Applied  
Welder, Combination  
Writer, Technical Publications

Cluster E

Accounting Clerk, Civil Service  
Accounting Clerk, Manufacturing  
Assembler (Electrical Equipment)  
Assembler, Production  
Assembler, Small Parts  
Automobile-Seat Cover-and-Convertible  
Top Installer  
Baker  
Bartender  
Battery Assembler  
Bookbinder  
Bookkeeper I  
Bottler, Brewery  
Bus Driver  
Cabinetmaker  
Cashier-Checker  
Cleaner, Housekeeping (Maid, Hotel)  
Credit Clerk  
Digital-Computer Operator  
Electronics Assembler  
Foundry Worker, General  
Key-Punch Operator  
Lithographic Press Plate-Maker  
Lumber-Yard Worker  
Mail Carrier  
Marker  
Meat Cutter  
Personnel Clerk  
Post-Office Clerk

Cluster E (continued)

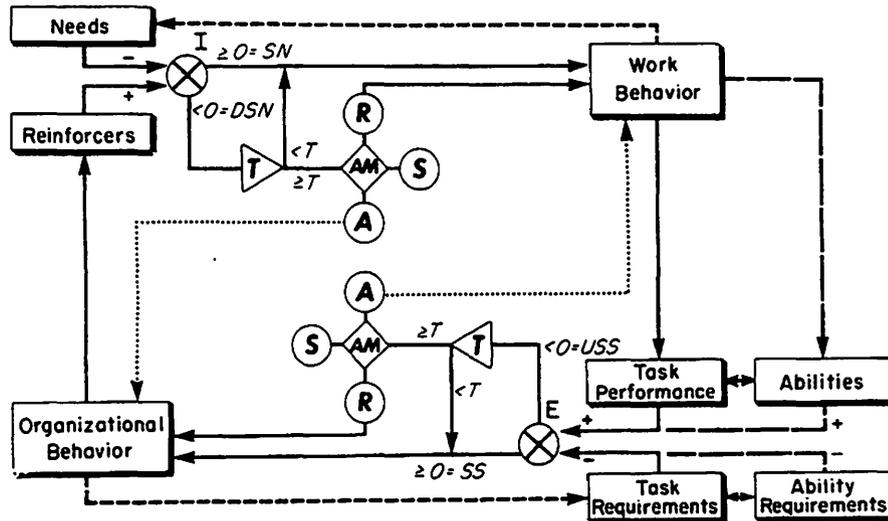
Pourer, Metal  
Production Helper (Food)  
Punch-Press Operator  
Salesperson, General (Department Store)  
Salesperson, Liquor  
Service Representative (Telephone)  
Sewing-Machine Operator, Automatic  
Solderer (Production Line)  
Telephone Operator  
Teller (Banking)  
Toy Assembler  
Truck Driver

Cluster F

Aircraft-and-Engine Mechanic,  
Line Service  
Aircraft-and-Engine Mechanic, Shop  
Airplane-Flight Attendant  
Automobile Service Station Attendant  
Clerk, General Office, Civil Service  
Compositor  
Dietitian  
Embalmer  
Exterminator  
Fire Fighter  
Highway Engineer  
Home Attendant  
Hotel Clerk  
Janitor (Public School)  
Librarian  
Linotype Operator  
Medical Technologist  
Nurse Aid  
Nurse, Licensed Practical  
Nurse, Professional  
Orderly  
Perforator Typist  
Pharmacist  
Physical Therapist  
Police Officer  
Radiologic Technologist  
Receptionist, Civil Service  
Secretary (General Office)  
Stenographer, Technical, Civil Service  
Stock Clerk  
Taxi Driver  
Teacher Aide  
Telephone Installer  
Typist, Civil Service  
Usher (Theater)  
Waiter-Waitress

Appendix E

Flow Chart of the Work Adjustment Process



The individual (I) is located in the upper left-hand corner and the work environment (E) is located in the lower right-hand corner. I comes to work with a set of Needs and evaluates these against a set of expected Reinforcers. If these Reinforcers equal or exceed the Needs, I feels satisfaction (SN), and proceeds to behave in the manner that I feels is expected (Work Behavior). I's Work Behavior consists mainly of Task Performance which is then evaluated by E against the Task Requirements. If I's Task Performance meets or exceeds the Task Requirements, I is considered satisfactory, i.e., to have achieved satisfactoriness (SS). This, in turn, results in Organizational Behavior that produces the reinforcement necessary to meet I's needs. I can now evaluate the actual reinforcers against needs and should continue to be satisfied and satisfactory until significant changes take place. The main points in the system at which changes may affect the stable interaction are: Needs, Work Behavior, Task Requirements, and Organizational Behavior. There is also the possibility of inaccurate evaluation on the part of I and/or E.

When I evaluates Reinforcers as not meeting Needs, I feels dissatisfaction (DSN). I has a tolerance for some dissatisfaction, but if it rises above I's threshold (T), I will move to seek a better adjustment. I may use either or both of two Adjustment Modes (AM). I may accommodate to the situation, i.e., by employing a Reactive Mode (R) of adjustment, or I may act to change the situation, i.e., by employing an Active Mode (A). If these adjustments result in a

tolerable level of dissatisfaction, I's work behavior will be directed toward meeting E's task requirements. If not, I will leave the work situation, i.e., separation (S) will occur.

When E evaluates I's Task Performance as not meeting Task Requirements, I will be considered unsatisfactory (USS). E can tolerate some unsatisfactoriness, but if it exceeds E's threshold (T), E will move to make the appropriate adjustment. E may accommodate to the situation, i.e., be reactive (R), or E may take steps to effect a change in I, i.e., be active (A). If neither of these modes of adjustment by E achieves the desired effect, the only recourse for E is the separation (S) of I from the specific work situation. This might be accomplished by transfer, demotion, promotion, or termination.

In order to forecast work adjustment, it is necessary to have information on four components of the system shown in the figure: Needs, Reinforcers, Task Performance, and Task Requirements. Information for forecasting can be made available on all components except Task Performance, which can be known only when the individual is behaving in the work situation. It is necessary, therefore, to substitute a measure of potential for Task Performance, i.e., Abilities. Having made this substitution, it becomes more convenient for matching purposes to translate Task Requirements into Ability Requirements. These substitutions are shown on the right-hand side of the figure.

Appendix F  
Normative Data

Table F-1  
Norms for MIQ Paired Form  
Females Ages 18 to 25  
N = 1,059

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.50	.90	1.50	2.20	2.70
2. Achievement.....	.50	1.00	1.60	2.30	2.70
3. Activity.....	-1.00	-.50	.40	1.20	1.80
4. Advancement.....	-.20	.40	1.10	1.70	2.50
5. Authority.....	-1.50	-1.20	-.50	.50	1.20
6. Company Policies-Practices....	-.20	.20	.90	1.60	2.00
7. Compensation.....	-.70	-.20	.70	1.50	2.00
8. Co-Workers.....	-.30	.10	.80	1.50	1.80
9. Creativity.....	-.50	.10	1.00	1.70	2.20
10. Independence.....	-1.20	-.80	0.00	1.00	1.60
11. Moral Values.....	-.80	-.20	.90	2.20	2.80
12. Recognition.....	-.40	.20	1.00	1.70	2.20
13. Responsibility.....	-.40	.10	.90	1.60	2.10
14. Security.....	-.40	.20	1.00	1.80	2.50
15. Social Service.....	-.40	.20	1.20	2.20	2.70
16. Social Status.....	-1.50	-1.10	-.20	1.00	1.70
17. Supervision, Human Relations..	-.60	0.00	.70	1.40	1.90
18. Supervision, Technical.....	-.50	0.00	.60	1.40	1.80
19. Variety.....	-.80	-.40	.60	1.40	2.10
20. Working Conditions.....	0.00	.40	1.00	1.60	2.10
Logically Consistent Triads (%)	38	61	82	92	95

Table F-2  
Norms for MIQ Paired Form  
Females Ages 26 to 45  
N = 1,134

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.60	1.00	1.70	2.30	2.70
2. Achievement.....	.70	1.10	1.80	2.40	2.80
3. Activity.....	-1.20	-.60	.30	1.20	1.80
4. Advancement.....	-.20	.40	1.20	2.10	2.60
5. Authority.....	-1.50	-1.10	-.40	.60	1.30
6. Company Policies-Practices....	0.00	.40	1.00	1.60	2.00
7. Compensation.....	-.50	0.00	.80	1.60	2.10
8. Co-Workers.....	-.40	0.00	.70	1.40	1.80
9. Creativity.....	-.30	.20	1.00	1.80	2.30
10. Independence.....	-1.20	-.70	.10	1.10	1.70
11. Moral Values.....	-.90	-.20	1.00	2.50	2.80
12. Recognition.....	-.20	.30	1.00	1.80	2.20
13. Responsibility.....	-.30	.20	1.00	1.80	2.30
14. Security.....	-.60	.10	1.00	1.90	2.50
15. Social Service.....	-.50	.10	1.10	2.10	2.60
16. Social Status.....	-1.50	-1.20	-.40	.80	1.50
17. Supervision, Human Relations..	-.40	.10	.80	1.40	1.90
18. Supervision, Technical.....	-.60	-.10	.60	1.30	1.80
19. Variety.....	-.80	-.40	.50	1.40	2.00
20. Working Conditions.....	-.20	.30	.90	1.60	2.20
Logically Consistent Triads (%)	54	69	85	93	95

Table F-3  
Norms for MIQ Paired Form  
Females Ages 46 to 70  
N = 684

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.70	1.00	1.70	2.50	3.00
2. Achievement.....	.70	1.10	1.80	2.50	3.00
3. Activity.....	-.90	-.40	.60	1.50	2.00
4. Advancement.....	-.20	.40	1.20	2.20	2.70
5. Authority.....	-1.40	-1.00	-.40	.80	1.50
6. Company Policies-Practices....	.10	.60	1.20	2.00	2.40
7. Compensation.....	-.20	.20	1.00	1.80	2.30
8. Co-Workers.....	-.40	.10	.70	1.50	2.00
9. Creativity.....	-.40	.10	.90	1.70	2.10
10. Independence.....	-1.00	-.60	.30	1.30	1.90
11. Moral Values.....	-.60	0.00	1.00	2.40	2.80
12. Recognition.....	-.40	.20	1.00	1.80	2.30
13. Responsibility.....	-.30	.20	.90	1.80	2.20
14. Security.....	-.30	.30	1.20	2.20	2.80
15. Social Service.....	-.20	.40	1.20	2.20	2.70
16. Social Status.....	-1.50	-1.20	-.20	1.00	1.80
17. Supervision, Human Relations..	-.30	.20	.90	1.60	2.10
18. Supervision, Technical.....	-.30	.20	.90	1.60	2.10
19. Variety.....	-1.00	-.50	.30	1.40	1.90
20. Working Conditions.....	0.00	.50	1.20	1.90	2.40
Logically Consistent Triads (%)	50	65	83	92	95

Table F-4  
Norms for MIQ Paired Form  
Males Ages 18 to 25  
N = 1,088

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.50	.80	1.50	2.20	2.70
2. Achievement.....	.50	.90	1.40	2.20	2.60
3. Activity.....	-1.30	-.70	.20	1.20	1.70
4. Advancement.....	0.00	.60	1.30	2.00	2.50
5. Authority.....	-1.50	-1.00	-.10	.90	1.60
6. Company Policies-Practices....	-.30	.20	.80	1.50	2.00
7. Compensation.....	-.80	-.30	.70	1.60	2.00
8. Co-Workers.....	-.40	.10	.80	1.50	2.00
9. Creativity.....	-.40	.20	1.10	1.80	2.40
10. Independence.....	-1.30	-.80	0.00	1.20	1.80
11. Moral Values.....	-.90	-.30	.80	2.10	2.70
12. Recognition.....	-.40	.10	1.00	1.80	2.20
13. Responsibility.....	-.30	.20	1.00	1.80	2.30
14. Security.....	-.20	.30	1.20	2.00	2.50
15. Social Service.....	-.60	0.00	1.00	2.00	2.50
16. Social Status.....	-1.50	-1.00	.10	1.30	1.80
17. Supervision, Human Relations..	-.60	0.00	.70	1.40	1.90
18. Supervision, Technical.....	-.60	0.00	.60	1.40	1.90
19. Variety.....	-.70	-.40	.60	1.60	2.10
20. Working Conditions.....	-.20	.30	1.00	1.70	2.10
Logically Consistent Triads (%)	30	55	79	90	94

Table F-5  
 Norms for MIQ Paired Form  
 Males Ages 26 to 45  
 N = 1,115

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.50	.90	1.60	2.30	2.80
2. Achievement.....	.60	1.00	1.60	2.30	2.70
3. Activity.....	-1.20	-.70	.20	1.20	1.90
4. Advancement.....	0.00	.50	1.40	2.20	2.70
5. Authority.....	-1.40	-1.00	0.00	1.10	1.70
6. Company Policies-Practices....	-.30	.20	.80	1.60	2.10
7. Compensation.....	-.60	0.00	.90	1.70	2.30
8. Co-Workers.....	-.70	-.10	.60	1.40	1.90
9. Creativity.....	-.20	.40	1.20	2.00	2.50
10. Independence.....	-1.20	-.70	.20	1.40	2.00
11. Moral Values.....	-1.00	-.30	.90	2.30	2.80
12. Recognition.....	-.30	.30	1.10	1.80	2.30
13. Responsibility.....	0.00	.40	1.20	2.00	2.50
14. Security.....	-.50	.20	1.10	2.10	2.70
15. Social Service.....	-.60	0.00	1.00	2.00	2.60
16. Social Status.....	-1.50	-1.10	0.00	1.20	1.70
17. Supervision, Human Relations..	-.50	0.00	.70	1.50	2.00
18. Supervision, Technical.....	-.70	.20	.60	1.30	1.90
19. Variety.....	-.80	-.40	.50	1.60	2.10
20. Working Conditions.....	-.30	.20	1.00	1.60	2.20
Logically Consistent Triads (%)	41	64	83	92	95

Table F-6  
 Norms for MIQ Paired Form  
 Males Ages 46 to 70  
 N = 1,064

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.60	1.00	1.80	2.50	3.00
2. Achievement.....	.70	1.00	1.80	2.50	3.00
3. Activity.....	-1.00	-.60	.60	1.50	2.00
4. Advancement.....	0.00	.50	1.40	2.30	2.80
5. Authority.....	-1.40	-.90	0.00	1.30	1.90
6. Company Policies-Practices....	-.10	.40	1.00	1.80	2.30
7. Compensation.....	-.50	.10	1.00	1.90	2.40
8. Co-Workers.....	-.60	-.10	.70	1.50	2.00
9. Creativity.....	-.20	.30	1.20	2.00	2.50
10. Independence.....	-1.00	-.60	.40	1.50	2.10
11. Moral Values.....	-.90	0.00	1.00	2.30	2.80
12. Recognition.....	-.20	.30	1.20	2.00	2.50
13. Responsibility.....	-.20	.40	1.20	2.10	2.60
14. Security.....	-.20	.40	1.30	2.40	2.80
15. Social Service.....	-.30	.30	1.20	2.10	2.80
16. Social Status.....	-1.50	-1.00	.10	1.40	1.90
17. Supervision, Human Relations..	-.40	.10	.90	1.60	2.20
18. Supervision, Technical.....	-.70	0.00	.70	1.50	2.00
19. Variety.....	-.90	-.50	.60	1.60	2.20
20. Working Conditions.....	-.20	.30	1.10	1.90	2.40
Logically Consistent Triads (%)	46	66	83	92	95

Table F-7  
 Norms for MIQ Ranked Form  
 Females Ages 18 to 25  
 N = 1,038

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.70	1.10	1.80	2.50	2.80
2. Achievement.....	.80	1.30	1.90	2.50	3.00
3. Activity.....	-1.00	-.30	.60	1.60	2.20
4. Advancement.....	-.30	.30	1.20	2.00	2.50
5. Authority.....	-1.50	-1.20	-.50	.50	1.20
6. Company Policies-Practices....	-.40	0.00	.60	1.20	1.60
7. Compensation.....	-.70	-.20	.60	1.30	1.70
8. Co-Workers.....	-.30	.20	.90	1.60	2.00
9. Creativity.....	-.40	.20	1.10	1.80	2.20
10. Independence.....	-1.30	-1.00	0.00	1.20	1.80
11. Moral Values.....	-.90	-.20	.90	2.10	2.80
12. Recognition.....	-.30	.30	1.10	1.90	2.30
13. Responsibility.....	-.20	.40	1.20	1.90	2.30
14. Security.....	-.50	.10	1.00	1.80	2.50
15. Social Service.....	-.60	0.00	1.00	2.20	2.70
16. Social Status.....	-1.50	-1.00	0.00	1.10	1.90
17. Supervision, Human Relations..	-.70	-.20	.50	1.10	1.50
18. Supervision, Technical.....	-.80	-.30	.50	1.10	1.60
19. Variety.....	-.50	-.20	.70	1.50	2.20
20. Working Conditions.....	-.10	.40	1.00	1.70	2.20
21. Autonomy.....	-.30	.30	1.00	1.80	2.20
Logically Consistent Triads (%)	47	73	89	95	97

Table F-8  
 Norms for MIQ Ranked Form  
 Females Ages 26 to 45  
 N = 1,121

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.80	1.20	1.90	2.50	3.00
2. Achievement.....	.90	1.30	1.90	2.70	3.00
3. Activity.....	-1.00	-.60	.50	1.50	2.20
4. Advancement.....	-.40	.30	1.20	1.90	2.50
5. Authority.....	-1.50	-1.20	-.40	.70	1.30
6. Company Policies-Practices....	-.30	.10	.60	1.20	1.80
7. Compensation.....	-.30	.20	.80	1.50	2.00
8. Co-Workers.....	-.60	-.10	.70	1.40	1.80
9. Creativity.....	-.20	.30	1.20	1.80	2.30
10. Independence.....	-1.30	-.80	0.00	1.30	2.00
11. Moral Values.....	-.80	-.20	1.10	2.50	2.80
12. Recognition.....	-.20	.30	1.20	1.80	2.30
13. Responsibility.....	-.10	.50	1.30	1.90	2.40
14. Security.....	-.60	-.10	.70	1.80	2.50
15. Social Service.....	-.70	-.10	1.00	1.90	2.50
16. Social Status.....	-1.50	-1.20	-.30	1.00	1.70
17. Supervision, Human Relations..	-.50	-.10	.50	1.10	1.60
18. Supervision, Technical.....	-.80	-.30	.40	1.10	1.50
19. Variety.....	-.60	-.30	.70	1.50	2.00
20. Working Conditions.....	-.20	.20	.90	1.60	2.00
21. Autonomy.....	0.00	.50	1.20	1.90	2.30
Logically Consistent Triads (%)	58	79	91	96	98

Table F-9  
 Norms for MIQ Ranked Form  
 Females Ages 46 to 70  
 N = 462

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.80	1.30	1.90	2.70	3.20
2. Achievement.....	.90	1.20	1.90	2.70	3.20
3. Activity.....	-1.00	-.50	.70	1.90	2.40
4. Advancement.....	-.40	0.00	1.10	2.00	2.50
5. Authority.....	-1.50	-1.10	-.30	.80	1.50
6. Company Policies-Practices....	-.10	.20	.80	1.60	2.00
7. Compensation.....	-.70	0.00	.80	1.50	2.00
8. Co-Workers.....	-.50	.10	.80	1.50	2.00
9. Creativity.....	-.50	.10	1.10	1.80	2.30
10. Independence.....	-1.30	-.80	.10	1.40	2.10
11. Moral Values.....	-.70	0.00	1.20	2.50	2.80
12. Recognition.....	-.60	0.00	.90	1.80	2.40
13. Responsibility.....	-.30	.30	1.20	2.00	2.50
14. Security.....	-.60	-.10	1.00	2.20	2.80
15. Social Service.....	-.40	.20	1.20	2.20	2.70
16. Social Status.....	-1.60	-1.20	-.20	1.00	1.60
17. Supervision, Human Relations..	-.50	0.00	.60	1.30	1.70
18. Supervision, Technical.....	-.60	-.20	.60	1.40	1.90
19. Variety.....	-.70	-.30	.60	1.50	2.00
20. Working Conditions.....	-.20	.40	1.10	1.90	2.40
21. Autonomy.....	-.10	.40	1.20	1.90	2.50
Logically Consistent Triads (%)	36	71	88	95	97

Table F-10  
 Norms for MIQ Ranked Form  
 Males Ages 18 to 25  
 N = 1,061

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.50	.90	1.60	2.30	2.80
2. Achievement.....	.60	1.00	1.70	2.40	2.80
3. Activity.....	-1.10	-.50	.50	1.50	2.20
4. Advancement.....	-.20	.40	1.20	2.00	2.50
5. Authority.....	-1.50	-1.20	-.30	.80	1.70
6. Company Policies-Practices....	-.50	-.10	.50	1.10	1.50
7. Compensation.....	-.80	-.20	.60	1.50	1.90
8. Co-Workers.....	-.50	0.00	.80	1.50	1.90
9. Creativity.....	-.30	.30	1.10	1.80	2.30
10. Independence.....	-1.30	-1.00	0.00	1.50	2.20
11. Moral Values.....	-1.20	-.50	.60	1.90	2.70
12. Recognition.....	-.40	.10	1.10	1.90	2.30
13. Responsibility.....	0.00	.50	1.20	1.90	2.40
14. Security.....	-.30	.30	1.10	2.00	2.70
15. Social Service.....	-.80	-.20	.80	1.80	2.50
16. Social Status.....	-1.50	-1.00	-.10	1.30	2.00
17. Supervision, Human Relations..	-.80	-.30	.40	1.10	1.50
18. Supervision, Technical.....	-.80	-.30	.40	1.00	1.50
19. Variety.....	-.60	-.20	.70	1.60	2.20
20. Working Conditions.....	0.00	.40	1.00	1.70	2.20
21. Autonomy.....	-.20	.20	1.10	1.70	2.20
Logically Consistent Triads (%)	41	64	86	94	96

Table F-11  
 Norms for MIQ Ranked Form  
 Males Ages 26 to 45  
 N = 1,118

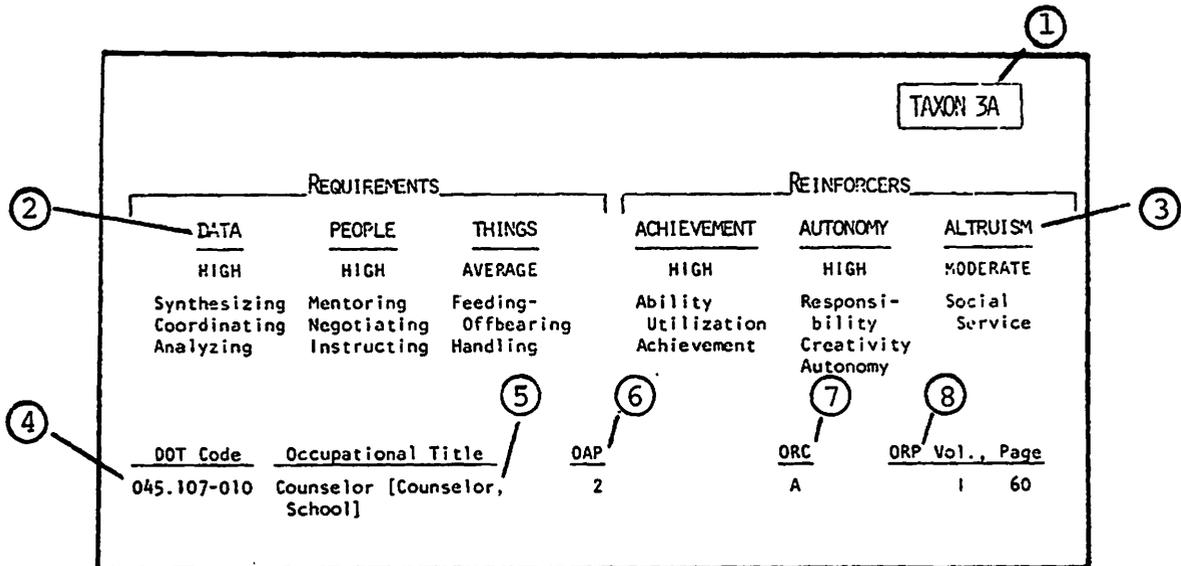
Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.70	1.10	1.70	2.50	3.00
2. Achievement.....	.70	1.10	1.80	2.50	2.80
3. Activity.....	-1.30	-.70	.30	1.40	1.90
4. Advancement.....	-.30	.30	1.10	2.00	2.50
5. Authority.....	-1.50	-1.20	-.30	.80	1.50
6. Company Policies-Practices....	-.50	-.10	.50	1.20	1.70
7. Compensation.....	-.50	0.00	.70	1.50	2.00
8. Co-Workers.....	-.60	-.10	.60	1.30	1.70
9. Creativity.....	-.10	.40	1.20	1.90	2.30
10. Independence.....	-1.40	-.90	0.00	1.30	2.00
11. Moral Values.....	-.80	-.10	.90	2.30	2.80
12. Recognition.....	-.50	.20	1.10	1.80	2.20
13. Responsibility.....	.10	.60	1.30	2.00	2.40
14. Security.....	-.30	.10	1.00	2.00	2.70
15. Social Service.....	-.50	0.00	1.00	2.00	2.70
16. Social Status.....	-1.60	-1.10	-.20	1.10	1.70
17. Supervision, Human Relations..	-.80	-.40	.40	1.10	1.50
18. Supervision, Technical.....	1.00	-.50	.30	1.00	1.50
19. Variety.....	-.70	-.20	.70	1.50	2.10
20. Working Conditions.....	-.20	.30	.90	1.60	2.20
21. Autonomy.....	-.10	.40	1.20	1.90	2.40
Logically Consistent Triads (%)	38	73	89	95	97

Table F-12  
 Norms for MIQ Ranked Form  
 Males Ages 46 to 70  
 N = 632

Scale	Percentile				
	5	15	50	85	95
1. Ability Utilization.....	.90	1.30	1.90	2.70	3.00
2. Achievement.....	.90	1.20	1.90	2.50	3.00
3. Activity.....	-1.00	-.50	.50	1.60	2.30
4. Advancement.....	-.30	.20	1.10	2.00	2.70
5. Authority.....	-1.30	-1.00	-.20	.90	1.70
6. Company Policies-Practices....	-.40	0.00	.60	1.30	1.80
7. Compensation.....	-.40	0.00	.70	1.70	2.20
8. Co-Workers.....	-.50	-.10	.70	1.30	1.70
9. Creativity.....	-.10	.60	1.30	2.00	2.30
10. Independence.....	-1.30	-.80	.20	1.40	2.00
11. Moral Values.....	-.80	0.00	1.00	2.40	3.00
12. Recognition.....	-.30	.20	1.10	1.80	2.30
13. Responsibility.....	.30	.70	1.40	2.00	2.50
14. Security.....	-.30	.20	1.00	2.20	3.00
15. Social Service.....	-.40	.30	1.30	2.30	2.70
16. Social Status.....	-1.50	-1.00	-.10	1.10	1.60
17. Supervision, Human Relations..	-.70	-.20	.50	1.20	1.60
18. Supervision, Technical.....	-1.00	-.50	.40	1.20	1.70
19. Variety.....	-.70	-.20	.70	1.50	2.00
20. Working Conditions.....	-.20	.20	.90	1.60	2.20
21. Autonomy.....	.20	.60	1.30	2.00	2.50
Logically Consistent Triads (%)	35	63	88	95	97

Appendix G

A Sample MOCS II Page: Key to the MOCS II Taxons



1. Taxon 3A is a listing of occupations having ability requirements pattern 3 and reinforcers typified by Cluster A.
2. Data, People, Things ability requirements are worker functions as defined in the Dictionary of Occupational Titles (4th ed.), 1977, pages 1369-71.
3. Reinforcer dimensions are discussed in the following publications in the Minnesota Studies in Vocational Rehabilitation series:
  - An Inferential Approach to Occupational Reinforcement (Vol. XIX, 1965)
  - The Measurement of Occupational Reinforcer Patterns (Vol. XXV, 1968)
4. D.O.T. Code and Occupational Title are as they appear for each occupation in the Dictionary of Occupational Titles (4th ed.), 1977.
5. Bracketed information provides more details about the nature of the occupational subgroup that supplied ORP/ORC data.
6. Occupational Aptitude Pattern, from the Manual for the USTES General Aptitude Test Battery, Section II: Norms, Occupational Aptitude Pattern Structure, 1970 with revisions through January 1978. Occupations are listed within each taxon in ascending order of OAP number.
7. Occupational Reinforcer Cluster identifies cluster membership for occupations used in the clustering of reinforcer patterns.
8. Occupational Reinforcer Pattern lists volume and page of the series Occupational Reinforcer Patterns in which the reinforcer pattern for the

occupation appears. Occupational Reinforcer Patterns Volumes I, II, and III (in press) are available from Vocational Psychology Research, University of Minnesota.

TAXON 3A

REQUIREMENTS			REINFORCERS		
<u>DATA</u>	<u>PEOPLE</u>	<u>THINGS</u>	<u>ACHIEVEMENT</u>	<u>AUTONOMY</u>	<u>ALTRUISM</u>
HIGH	HIGH	AVERAGE	HIGH	HIGH	MODERATE
Synthesizing Coordinating Analyzing	Mentoring Negotiating Instructing	Feeding- Offbearing Handling	Ability Utilization Achievement	Responsi- bility Creativity Autonomy	Social Service
<u>DOT Code</u>	<u>Occupational Title</u>	<u>OAP</u>	<u>ORC</u>	<u>ORP Vol., Page</u>	
045.107-010	Counselor [Counselor, School]	2	A	I	60
045.107-022	Psychologist, Clinical		A	III	46
045.107-026	Psychologist, Counseling		A	III	48
045.107-030	Psychologist, Industrial-Organizational		A	III	50
045.107-034	Psychologist, School		A	III	52
045.107-042	Vocational-Rehabilitation Counselor		A	I	62
045.117-010	Director of Guidance in Public Schools	2			
075.117-022	Director, Nursing Service	2			
090.117-022	Director, Athletic	2			
091.227-010	Teacher, Secondary School	2	A	I	164
091.227-010	Teacher, Secondary School [Agriculture]		A	III	62
092.227-010	Teacher, Elementary School	2	A	I	162
092.227-018	Teacher, Preschool				
094.227-018	Teacher, Handicapped Students	2			
099.117-026	Supervisor, Education	2			
099.117-018	Principal [Principal, Night School]		A	III	42
166.117-010	Director, Industrial Relations	2			
166.117-018	Manager, Personnel				