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ON A TYPOLOGY OF SCHOOL PSYCHOLOGISTS IN
OKLAHOMA.

THE UNIVERSITY OF OKLAHOMA, PH.D., 1978

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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

ON A TYPOLOGY OF SCHOOL PSYCHOLOGISTS

IN OKLAHOMA

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

By

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Norman, Oklahoma

1978

ON A TYPOLOGY OF SCHOOL PSYCHOLOGISTS

IN OKLAHOMA

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ACKNOWLEDGEMENTS

I wish to acknowledge gratefully the generous support of my parents, Dr. and Mrs. N. B. Ramsey. Their support was unfailing and enabled me to successfully pursue and complete this endeavor.

The investigator especially wishes to thank Professor O. J. Rupiper, chairman of my committee. His consistent and unfailing encouragement helped me to maintain my resolve to complete this project.

Also, the investigator would like to extend a thank you to the other professors who served as members of my committee: Charlyce King, for her constant support, Gene Shepherd, for his honest and constructive criticism, Robert C. Curry, for the concern and energy expended in this undertaking, and Albert D. Smouse, for his continued service.

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ABSTRACT

The roles and functions of school psychologists may have been mutilated in an attempt to establish types, nevertheless a typology of school psychologists might lead to new and fruitful understandings of them. An R-technique and Q-technique factor analysis of the relationships among 46 item responses of 46 certified school psychologists in Oklahoma helped to interpret the types found. The oblimin rotation of the 14 factor solution of items and 13 factor solution of school psychologists permitted a tentative interpretation. The R-analysis produced four factors of job activities: counseling, diagnosis and evaluation, individual assessment, and administration and organization. The three school psychology types that emerged from the Q-technique or inverse factor analysis were diagnostician, consultant-decision maker and facilitator, and therapeutic agent. It may be concluded that these results provide a useful method for determining types of school psychologists.

ON A TYPOLOGY OF SCHOOL PSYCHOLOGISTS

IN OKLAHOMA

INTRODUCTION

With the area of School Psychology expanding rapidly and the school systems responding to the needs of pupils, their families, and teachers, it would seem that the quality and relevance of the training of the school psychologists should come under scrutiny. Cardon and French (1968) contended that there was a greater demand for training school psychologists than could be met by the institutions that purported to train school psychologists. Brayfield (1967) noted that "School psychology is the most rapidly growing area of psychology. You cannot begin to fill the needs" (p. 671). Clair and Kiraly (1971) indicated that:

In the last few years the demand for school psychology has been so great that there has been an enormous growth in the university training programs. As a result of this growth, which has been uncontrolled, cancerous problems have evolved which threaten not only the existence of school psychological programs, but also the host of school psychologists who have graduated from them. Without emergency

intervention on the part of university educators and active practitioners, the life span of this viable speciality is in question. (p. 383)

Kruz (1974) noted that the jurisdiction of who accredits a school psychologist was still up in the air. Apparently, there were still some questions as to who should control the training of school psychologists, that is, the American Psychological Association (APA), National Commission on Accrediting (NCA), National Council for Accreditation for Teachers (NCAT) or the National Association of School Psychologists (NASP). In view of Kruz's report, it seemed that the standards recommended by these various organizations only confused the issue of training programs. Bardon and Bennett (1974) pointed out that the school psychologist "enacts many roles that are not spelled out in the laws or certification requirements of the states" (p. 173).

Bardon and Bennett (1974) dealt with the lack of change in the training programs, also. They indicated that some of the rigidity of the training procedures may have to do with how the area of school psychology was viewed within the university setting. "The identification of school psychology as an autonomous sub-speciality of psychology and the strength of the program offered depended largely on how it is perceived by the university that houses it" (p. 174).

In 1974, Fairchild presented a paper which held certain implications for the training programs in school psychology.

When the amount of time devoted to various services is

compared with the amount of attention that those services receive during the pre-service training, there appears to be a considerable discrepancy between the skills emphasized and the skills actually required for successful on-the-job functioning. The data suggests that course work related to traditional diagnostic testing needs to be deemphasized and the consultation skills need to receive increased attention. (p. 218)

Clair and Kiraly (1971) previously emphasized this line of thought when they suggested that the training programs were duty bound to shape curriculum so that the material that the student learned was current, relevant and useful. Also, the training program should bring its curriculum into focus with the needed job skills.

Catteral (1973) supported the idea that training institutions focused primarily upon diagnosis in a school psychology training program. However, he went on to note that school psychology was continually changing and ordering, and a priority list of competences may never be developed to enable a training institution to deal with training someone for the role of a school psychologist. Bardon and Wenger (1976) appeared to support Catteral as they called for a somewhat drastic change in the degree granting programs in school psychology. They called for the granting of the Psychological Doctorate degree which they believed would give more flexibility to the training of school psychologists.

The possibility would arise that the training that the various

programs offered were not in touch with the actual functioning aspects of a school psychologist. Chartoff and Bardon (1974) noted that this possibility may actually exist. They surveyed several universities and found that the percentages of persons who were graduated and working as school psychologists or directors of special services for schools varied from 16.8 percent to 64.3 percent. They felt that the universities should keep records on career development of its graduates and survey the requirements of the positions for which they were trained.

In 1974, Chartoff and Bardon surveyed graduates from several school psychology programs across the United States. One of the findings they reported from the study was that 38.6 percent of the school psychologists related their training programs as excellent, 51.5 percent as good, 8.2 percent as fair and 1.7 percent as poor. In this study they also presented a listing of courses which were the most helpful courses included in their curriculum. The rank order of these courses were: internship and practice, intellectual assessment, child-developmental psychology, personality assessment, learning theory and applications, and educational assessment. Also, ranked in order of the least helpful courses were: physiological psychology, educational foundations, computer sciences, educational administration, research methodology, and educational curriculum. Other areas of weakness mentioned were consultation techniques, educational assessment, educational techniques, therapy-counseling, social psychology and computer science. Quite obviously there were

more courses which were not viewed as helpful than seen as helpful. It would seem that this study also supported the possibility that programs in school psychology were not preparing school psychologists for their actual role in practice.

To respond to the movement of education, school psychology must continually be involved in overlapping roles of other professionals, i.e., social workers, child development specialists, learning disabilities specialists and psychiatrists. Naturally, role confusion was evident among school psychologists.

The training difficulties of a school psychologist again surfaced as an issue in 1974 in a study prepared by Gallissich. She approached the area of consultation as the most useful area of knowledge to the school psychologist. She also presented models of consultation, however, one of the central themes throughout her paper was that of the school psychologist's training and preparation for this role. She believed that training institutions did not typically offer organized training in consultation theory and methods.

In 1974, Klosterman indicated that many school psychologists do not function in what he viewed as "the somewhat closed school setting" (p. 270). He viewed the role of the school psychologist in a community mental health center as unique. The interdisciplinary approach allows an interchange of ideas with the school psychologist. He viewed the school psychologist as a professional who has special skills for working with children, families and schools of all types. The mental health center concept also allowed the school psychologist

the opportunity to engage in meaningful, long term therapy with children and families.

A recent survey was completed by the Texas Psychological Association (TPA) regarding:

- (1) selection, training and accreditation of those psychologists providing services to the schools,
- (2) a survey of skill utilization of psychologists in the schools, (3) review of training programs dealing with school psychology and (4) a determination of the present and future needs for psychologists in the schools. (Note 1)

A questionnaire method was used in gathering the wanted information. The survey tapped services the school viewed as most important and rank ordered the services in this manner: (1) assessment, (2) recommendation for remediation, (3) consultation with parents, (4) consultation with teachers, (5) counseling with students and (6) staff development. In the area of the training programs the TPA recommended that:

Training programs for psychologists should recognize the need to train more school-oriented psychologists, to support the involvement of psychologists active in school settings and in training activities, and to develop continuing education programs for school-oriented psychologists. (Note 1)

The results of this study noted that there was a heterogeneity

of employment of psychologists in the schools in Texas. The Texas Study also showed that most psychologists felt that their training was adequate, but almost all suggested some revision of curriculum. The deletions recommended were clearly academic subjects, while the additions were application oriented.

From the review of literature presented there appeared to be some confusion as to the role and function of the school psychologist. Since such basic confusion or ambivalence existed within the philosophy, functioning, training and certification of the school psychologist, the investigation into the area of types of school psychologists appeared warranted.

The existing literature relevant to the role and function of school psychologists is rather massive, though not always helpful. Major emphasis seemed to be placed on academic preparation rather than on actual practice. Responsibilities in the field vary a great deal and often they are not linked with training. These responsibilities vary with respect to type of position and type of psychologist doing the job. In view of this consideration, it seems reasonable to expect that different types of school psychologists exist in reality.

The basic idea that school psychologists may be classified into relatively discrete types according to their job responsibilities is one that has received only comparatively little attention from training institutions. On the basis of the record, it would appear that the implications of discontinuity connoted by the idea of

"type" have proved a formidable obstacle to the development of school psychologists. Attention to matters of type is a necessary prerequisite for those who embark upon the preparation of school psychologists for carrying out their assignments.

Since typologies represent distractions, it is in their nature to oversimplify, i.e., to mask the multidimensional variability known to exist within a given type. Yet as an abstraction a typology may well function as a valuable tool in training and practice. A discernible history of typologies of school psychologists is non-existent but could be eventful. The purpose and perspective of investigators in establishing types differ in that they reflect the concerns of the sample of persons on the job and the instrument used in obtaining these concerns.

Consideration of types of school psychologists led the investigator to formulate the hypothesis that responses to items from a questionnaire related to training and functions would produce specific types. Since it appeared that such a hypothesis might account for a variety of otherwise perplexing findings, the investigator was led to particularize it further by analyzing the questionnaire which might interact to create various categories.

The purpose of this study was to examine the collected empirical data obtained from the respondent population with the express object of evaluating the general hypothesis just stated and of modifying it if necessary. This study was not designed to provide a "proof" of the existence of type, as such proof would require simultaneous consideration of many kinds of evidence.

It was believed that positive findings could reflect and provide encouragement for undertaking more extensive and varied studies in distinguishing "type-dimensions" from general dimensions of school psychologists.

In reflecting on the responsibilities of school psychologists, it seemed very unlikely that any actual job would require only a single activity, for example, assessment or consultation, to the exclusion of all other activities. It was therefore desirable to see whether or not school psychology positions could be classified in terms of recognizable groupings or patterns. The particular technique that was used to examine the data for such patterns was factor analysis, i.e., the R-technique to factor analyze the intercorrelations of items across subjects and the Q-technique to factor analyze the intercorrelations of subjects across items.

METHOD

Subjects

A list of certified school psychologists was obtained from the Oklahoma State Department of Education. Each person on this list met the requirements for either a temporary, provisional or standard certificate in the State of Oklahoma. These requirements are presented in Appendix A. Of the 105 names presented, no address was listed for 14 persons and another 10 persons had moved out of the State. Of the remaining 81 certified school psychologists, 15 were serving in other capacities and were not eligible for inclusion in the sample. The final total number of 66 eligible certified school psychologists was mailed the questionnaire to which 62 (94%) responded.

Questionnaire

A five-page, 83 item questionnaire was a slightly modified version of the questionnaire used by the Texas Psychological Association in Report on Psychology in the Schools (Note 1). The modification consisted only of changing the names of the State and those items relative to State laws and regulations of school psychological services in Oklahoma. A copy of the questionnaire is shown in Appendix B and the letter for permission to use it is

exhibited in Appendix C.

This instrument was chosen as it was one of very few similar instruments available in this area of research. It was the only instrument dealing directly with training and function of practicing school psychologists and was developed in a geographic area somewhat similar to that of Oklahoma.

The questionnaire asked for information from the school psychologists as to academic training by using a checklist and a rating system. The checklist portion of the questionnaire dealt with demographic material and perception of the person's training material. The rating system, a one to five rating, consisted of task descriptions in which the person ranked each task's relative importance in terms of the particular job setting.

Procedure

The questionnaire was sent to 66 certified school psychologists in the State of Oklahoma in the Spring, 1977. This five-page instrument was accompanied by a typed letter to the recipient psychologist by name and signed personally by this investigator. A self-addressed, stamped envelope was enclosed. Follow-up communications included a second personalized letter and telephone calls. The responses to the questionnaire were checked by the investigator and the data were processed by the Merrick Computer Center at the University of Oklahoma.

The responses to the questionnaire were analyzed by using

both R and Q factor analysis. Cattell, pointed out that "Q-technique is most useful if one wishes immediately to see how many types there are in a population and to divide it up into types" (1952, p. 101). These particular analytic techniques were used since they permitted the determination of how the responses tended to group together in various school psychology positions. It seemed very unlikely that any actual job would require only a single activity to the exclusion of all other activities, therefore, it seemed desirable to see whether or not school psychology positions could be classified in terms of recognizable patterns on the basis of responses to the questionnaire.

Limitations

Two important limitations of this study should be readily apparent. First, the particular sample of school psychologists were those employed in Oklahoma. Generalizations from these data to any other or school psychologists classified into one or another of the types should not be drawn without appropriate qualifications.

Second, all items required self-report in interpreting the items when making the response so one should be mindful of such probabilities as inaccurate recollections, various response bias, attitudes, and the like.

RESULTS

The 62 replies from certified school psychologists within the State of Oklahoma represented 93.9 or 94 percent response. Because of the unusually high percentage of response for a study of this type, the data reported can be considered as having only a relatively slight nonresponse bias.

Of the 62 respondents, 28 (45%) were males and 34 (55%) were females, with the combined age range from 27 to 62 years and a median age of 36 years. Only five of the psychologists were licensed in the State. Their years of practice ranged from six months to 14 years with 3.5 years showing the median number of years service. Over half of the psychologists surveyed were employed on a full-time basis by a school system. The next largest group of psychologists serviced the school on a contractual basis, where a very small portion were employed by the school on a part-time basis. Table 1 shows the specific numbers and percentages.

Table 2 includes data in the area of adequacy of training. About one-half or 51 percent indicated that their training was adequate. Approximately one-third indicated they occasionally performed functions which they were not adequately prepared to perform and nine of the persons or 14% revealed that they often performed

TABLE 1
 Relationships of Psychologists
 to the School Systems

Employment Status	N	%
Full-Time Employee of School	35	56
Part-Time Employee of School	2	3
On Contract with School System to Provide Psychological Services	25	40

functions which they were not adequately prepared to perform. Only one person believed that his training was irrelevant.

TABLE 2
 Responses to Adequacy of Training

Adequacy of Training	N	%
Believed training was adequate	32	51
Occasionally performed functions not adequately prepared to perform	20	32
Perform major or frequent function not adequately prepared to perform	9	14
Believed training was totally irrelevant	1	1

The majority of respondents indicated that the present training programs needed to be altered. The numbers and accompanying per-

centages of respondents are presented in Table 3.

TABLE 3
Changes in Training Program

Need for Change of Program	N	%
Yes	56	90
No	6	9

There were twenty-nine courses presented to which the person indicated if the course should be deleted or added to the training program or indicated if the course should be revised. In the context of this study the use of the word "delete" in the questionnaire was defined as abolition of a particular course from the curriculum; "add" was defined as an insertion of a particular course to the curriculum while "revise" was defined as amending the course for improvement. The three courses that the greatest percentage of respondents wanted to delete were History and Systems, Vocational Development Theories, and Experimental Design and Perception which tied for third. The three courses that the greatest percentage of respondents wished to add were Medical Aspects of Childrens' Learning and Emotional Problems, Community Mental Health and Consultation. The three courses most often noted for revision were Personality Theory; tied for second were Individual Testing and Statistics and tied for third were Practicum and Independent Study. A complete

listing of courses are shown in Table 4.

The data in Table 4 indicated that the respondents were interested in deleting courses which appeared to be of little utility in the school setting, while addition of courses were those clinically related in applied areas. The same appeared to be true for the courses to be revised. Courses that individual respondents themselves added appeared to fall within three primary areas, those were educational theory and philosophy, legality and ethics within the area of school psychology and the emotional development of children.

The forty-six items (numbers 36 through 82) on which the school psychologists reacted to their functions in the schools were ranked according to mean response. The items that carried the top five ranks were numbers 48, 53, 38, 52, and 50. Those items which carried the bottom five ranks were numbers 37, 58, 43, 60, and 59. The complete listing of items by mean response and accompanying rank are presented in Table 5. The total number of responses and percentages by item are presented in Appendix D.

The R-Technique factor analysis

The items of the questionnaire dealing with training, role and functions of the practicing school psychologists were items 36 through 82. These items covered a reasonably broad range of content thought to be potentially relevant to the response styles of job responsibilities. Because of the concern for similarity of variables, the R-technique was appropriate.

TABLE 4

Changes in Training Programs

Course	Delete		Add		Revise	
	N	%	N	%	N	%
6. Personality theory	1	1	13	21	14	22
7. Individual testing	0	0	8	13	13	21
8. Learning theory	1	1	16	26	9	14
9. Experimental design	6	9	9	14	8	13
10. Statistics	1	1	11	18	13	21
11. Seminars	3	5	18	29	8	13
12. Practicum	1	1	6	9	11	18
13. Independent Study	3	5	7	11	11	18
14. Special Problems	1	1	14	23	9	14
15. Perception	6	9	14	23	4	6
16. History and Systems	19	31	0	0	5	8
17. Tests and measurement	0	0	10	16	10	16
18. Theory of intelligence	0	0	11	13	7	11
19. Abnormal	0	0	10	16	19	16
20. Projectives	1	1	18	29	11	18
21. Exceptionality	0	0	13	21	7	11
22. Developmental	0	0	14	23	3	5
23. Counseling theories	0	0	9	15	6	10
24. Vocational development theories	6	10	9	15	3	5
25. Community mental health	2	3	20	32	1	1
26. Internship	1	1	11	18	6	10
27. Classroom context	1	1	13	21	2	3
28. Teacher's role	1	1	15	24	5	8
29. Remediation techniques	0	0	17	27	9	15
30. Language and learning problems	0	0	10	16	3	5
31. Medical aspects of children's learning and emotional problems	0	0	22	35	3	5
32. Consultation	0	0	19	31	1	1
33. Supervised field experience	0	0	8	13	8	13
34. Administration	5	8	10	16	1	1
35. Group dynamics	1	1	10	16	4	6

TABLE 5

Rank Ordered Mean Responses to Task Descriptions

ITEM		
	RANK	MEAN RESPONSE
48. Write a comprehensive report of findings and recommendations	1.5	1.95
53. Review your findings and recommendations with pupil's teachers or principal	1.5	1.95
38. Assessment of individual intellectual functioning of pupils via WISC, WAIS, Stanford-Binet, etc,	3	1.96
52. Have reporting or discussion session with the pupil's teachers or principal	4	2.03
50. Have reporting session with parents of pupils evaluated or assisted	5	2.04
47. Interview of administrator or other support personnel (counselors, diagnosticians, etc.) having information pertaining to pupils being evaluated or assisted	6	2.06
46. Parental interview or written input concerning a pupil's being evaluated or assisted	7	2.11
45. Interview with teachers that have opportunity to observe a pupil being evaluated or assisted	8	2.12
65. Participate by accepting duties of a crisis intervention nature	9	2.17
39. Individual perceptual-motor screening evaluation via Bender-Gestalt, Harris Lateral Dominance, Frostig, etc.	10	2.22
54. Coordinate appraisal input sought from other professionals outside the regular school staff, such as neurologists, psychiatrists and psychologists	11	2.24
49. Review your findings and recommendations with faculty	12	2.25
65. Assist with behavioral management programming	13	2.27
78. Individual counseling and guidance with pupils	14	2.30

Table 5 (continued)

ITEM		
RANK		MEAN RESPONSE
55.	Coordinate with outside of school agencies those services related to evaluation or assisting youth with psychological needs. (Examples might include Mental Health/Mental Retardation, Family and Child Guidance Centers, Rehabilitation	
	15	2.32
40.	Individual language or learning disability screening via Illinois Test of Psycholinguistic Ability, Frostig, etc.	
	16.5	2.41
42.	Individual academic achievement estimate via Peabody Individual Achievement Test, Wide Range Achievement Test, etc.	
	16.5	2.41
41.	Individual personality evaluation via Children's Appreciation Test, Sentence Completion, Drawing Tasks, Rorschach, etc.	
	18.5	2.48
63.	Participate in staff development or in-service activities for teachers	
	18.5	2.48
56.	Coordinate contracted appraisal services obtained through the Regional Educational Services Centers	
	20	2.53
61.	Supervise transmittal of professional information of psychological nature about pupils	
	21	2.58
36.	Classroom observations of students	
	22.5	2.61
68.	Participate as member of an Admission, Review, and Dismissal (ARD) Committee for special education placement	
	22.5	2.61
79.	Group counseling sessions with pupils	
	24	2.62
51.	Review your findings and recommendations with pupil	
	25	2.67
80.	Family guidance and/or counseling	
	26	2.77
66.	Participate in certain business, professional, service and parent groups	
	27	2.79
69.	Supervise work of psychological associate(s)	
	28	2.87
44.	Review pupils' cumulative record form	
	29	2.96

Table 5 (continued)

ITEM		
RANK		MEAN RESPONSE
75.	Plan and implement staff development programs for psychological services personnel 30	2.97
77.	Psychological services for school staff or school personnel 31	3.04
73.	Coordinate legal inquiries of a psychological nature about a student, such as with the juvenile authority, custody cases, and criminal court inquiries 32.5	3.06
82.	Develop academic programs for specific pupils 32.5	3.06
67.	Contribute by teaching at nearby college or university formal courses for college credit 34.5	3.09
74.	Recommend employment of personnel providing services of a psychological nature 34.5	3.09
81.	Play therapy sessions 36	3.11
37.	Participate as member of screening committee to screen students for possible psychological, behavioral or academic problems 37.5	3.14
58.	Cooperate with or initiate certain research activities that are part of the school district's function such as program evaluation 37.5	3.14
43.	Individual social development history for pupils being evaluated or assisted 39.5	3.17
60.	Participate in the writing, planning and implementation of special projects of the district 39.5	3.17
59.	Coordinate activities of graduate interns and practicum students 41	3.19
71.	Member of committees formed on interdepartmental basis, such as Teacher Education Centers, Reading Clinics, Student Affairs 42	3.41
72.	Participate in due process hearings for students related to certain disciplinary actions, such as drug abuse, corporal punishment, or suspensions 43	3.43

Table 5 (continued)

ITEM		
	RANK	MEAN RESPONSE
62. Participate in Parent-Teacher Association meetings	44	3.51
57. Coordinate certain research activity, such as that which might be related to graduate theses and dissertations	45	3.62
70. Assist with or prepare budget	46	3.83

Mean responses on the 46 job description variables were intercorrelated, generating a 46 x 46 correlation matrix. Unity was inserted throughout the principal diagonal and the matrix was factored by the BMDP4M-factor analysis-double precision version. In quest of an interpretable factor structure a direct oblimin rotation was employed where the criterion equation contained a constant, $\gamma = 0.0$.

The R-technique factor analysis data are presented in Tables 6 through 12 in Appendix E, where item numbers refer to the items as presented in Table 5. Because of the size of the tables, item number was used instead of writing each item repeatedly. In some of the tables, as noted, the numbers were rounded to two decimal places and decimals omitted for the sake of economy. The correlation matrix, unrotated factor loadings (pattern) for principal components, variance explained by factor, residual correlations, rotated factor loadings (pattern), factor correlations for rotated factors, and sorted rotated factor loadings (pattern) appear in their respective order.

Fourteen factors were extracted from the analysis which accounted for 78.5% of the total variance. An investigation of the distribution of factor loadings suggested that the identification of the factors might best proceed in terms of variables with loadings of .50. However, variables with loadings in the range from .25 to .48 might also be contributing to the identity of the factors. The first four factors account for 47.2% of the total variance and beyond the fourth factor the triplets, doublets, and

singlets which exist became less interpretable.

The correlations among the rotated factors, Table 11, are distributed around .00 and generally low with only one correlation exceeding .30. This suggests that the factors are independent.

The interpretation of factors in this study are based on factor loadings of .50 or higher and should not be construed as definitive.

Factor I - Counseling

Five items have loadings of .50 or higher on this factor.

79. Group counseling sessions with pupils	.87
80. Family guidance and/or counseling	.87
78. Individual counseling and guidance with pupils	.82
81. Play therapy sessions	.70
41. Individual personality evaluation via Children's Apperception Test, Sentence Completion, Drawing Tasks, Rorschach, etc.	.57

This factor clearly points to the role of counseling. Although item 41 appears to be inconsistent with the interpretation of the factor, it is conceivable that the process of interpreting projective instruments involves processes and functions which are evident in counseling situations.

Factor II - Diagnosis and Evaluation

Six items have loadings of .50 or higher on this factor.

45. Interview with teachers that have opportunity to observe a pupil being evaluated or assisted	.95
--------------------------------------------------------------------------------------------------	-----

52.	Have reporting or discussion session with the pupil's teachers or principal	.75
53.	Review your findings and recommendations with pupil's teachers or principal	.65
47.	Interview of administrator or other support personnel (counselors, diagnosticians, etc.) having information pertaining to pupils being evaluated or assisted	.62
44.	Review of pupil's cumulative record form	.60
46.	Parental interview or written input concerning a pupil's being evaluated or assisted	.59

The high loadings on this dimension indicate that the school psychologist cooperates with teachers, administrators and parents in diagnosing and evaluating the student. This dimension might be called consultation and evaluation.

Factor III - Individual assessment

Items that are most characteristic of duties having high loadings on Factor III include the following:

39.	Individual perceptual-motor screening evaluating via Bender-Gestalt, Harris Lateral Dominance, Frostig, etc.	.89
38.	Assessment of individual intellectual functioning of pupils via WISC, WAIS, Stanford-Binet, etc.	.82
40.	Individual language or learning disability screening via Illinois Test of Psycholinguistic Ability, Frostig, etc.	.81
42.	Individual academic achievement estimate via Peabody Individual Achievement Test, Wide Range Achievement Test, etc.	.66
48.	Write a comprehensive report of findings and recommendations	.62

This dimension of the school psychologist's responsibility

is that of individual assessment and report writing. The dimension is individual assessment.

Factor IV - Administration and Organization

The items below are characteristic of Factor IV.

69. Supervise work of psychological associate(s)	.75
61. Supervise transmittal of professional information of psychological nature about pupils	.75
74. Recommend employment of personnel providing services of a psychological nature	.72
70. Assist with or prepare budget	.71
59. Coordinate activities of graduate interns and practicum students	.68

This aspect of the school psychologist's position indicates that his activities involve various types of business control. It emphasizes supervision, coordination, and finances.

Factor V - Professional Relations

Three items have loadings of .50 or higher on this factor.

54. Coordinate appraisal input sought from other professionals outside the regular school staff, such as neurologists, psychiatrists and psychologists	.82
55. Coordinate with outside of school agencies those services related to evaluation or assisting youth with psychological needs. (Examples might include Mental Health/Mental Retardation, Family and Child Guidance Centers, Rehabilitation)	.75
49. Review your findings and recommendations with faculty	.50

This dimension in the school psychologist's position indicates a role of working with other professionals outside the school

system as well as with colleagues. It suggested respect of the important others.

Factor VI - Planning and Development

Factor VI has three items with loadings of .50 or higher.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------|-----|
| 58. Cooperate with or initiate certain research activities that are part of the school district's function such as program evaluation | .82 |
| 60. Participate in the writing, planning and implementation of special projects of the district | .70 |
| 67. Contribute by teaching at nearby college or university formal courses for college credit | .53 |

This dimension indicated that the school psychologist was involved in program evaluation and long-range planning for the district. Research activities were not necessarily related to the services of the school psychologist, but rather in that which would enhance the district. Perhaps item 67 loaded on Factor VI was part of the objectives of the district which may include such areas as the evaluation of new ideas, development of professional relations, and recognition.

Factor VII - Community relations and Inservice training

This factor has its largest loading on three items.

- | | |
|----------------------------------------------------------------------------------|-----|
| 66. Participate in certain business, professional, service and parent groups | .90 |
| 76. Participate in professional organizations at local, state and national level | .52 |
| 63. Participate in staff development or in-service activities for teachers | .51 |

This dimension indicated that the school psychologist was concerned with important policies of the community, of the profession at all levels, and the school district. It appeared that participation was for self-improvement and public relations.

Although Factors VIII through XIV were too under-determined to warrant an attempt to interpret them, the doublets and singlets involved activities of the school psychologist which were particularly important. These factors described the planning and implementation of staff development programs for psychological services personnel, develop academic programs for specific pupils, participate in screening pupils for special education, assist with behavioral management programming, and classroom observation of students.

The pattern of activities in school psychology jobs in Oklahoma seemed rather complex. Although 14 factors emerged, it appeared that the first four factors were most significant since they yielded approximately 50% of the variance explained. The activities involved in these four factors were: counseling, diagnosis and evaluation, individual assessment, and administration and organization.

The Q-technique factor analysis

In the previous section the concern was with the similarity of items. Here the concern was with developing a typology of school psychologists. This analysis involved the transpose data matrix of the other.

The 62 school psychologists were intercorrelated across the

46 items. Those which are alike because they are of the same type should produce high intercorrelations. Each cluster constitutes a special group of school psychologists that are alike, yet bear little semblance to members of other clusters. These clusters can be viewed as possible type categories for school psychologists.

From the first computer output it was recommended that since the correlation matrix is singular, it may be desirable to repeat the analysis eliminating the following subjects: 3, 9, 15, 28, 34, 36, 37, 38, 39, 46, 47, 51, 57, 59, 60, and 62. The squared multiple correlations (SMC) for each of these subjects with all other subjects was 1.000 and Kaiser's measure of sampling adequacy (MSA) was 1.00, therefore, the subjects were eliminated and the analysis rerun. All subjects carried their original identification numbers so the listing of subjects in the subsequent tables will show corresponding voids where subjects were eliminated. By removing these particular cases 46 subjects were retained for the analysis.

The Q-technique statistics are given in Tables 13 through 19, Appendix F. The intercorrelation matrix for subjects is presented in Table 13. Table 14 contains the eigenvalues and cumulative proportion of total variance. The first 13 eigenvalues are 10.91, 5.87, 3.62, 2.67, 2.22, 1.98, 1.68, 1.57, 1.42, 1.29, 1.19, 1.11, 1.05. The loadings on these factors account for 80% of the total variance. Tables 15, 16, and 17 contain the unrotated factor loadings (pattern) for principal components, residual correlations, and rotated factor loadings (pattern), respectively. The residual correlations in

Table 16 were relatively small and distributed about 0.00 which suggested that the factors were specific. The intercorrelations for the rotated factors in Table 18 indicated independent factors with the exception of Factor 1 with Factor 5 and Factor 6 which yielded correlations of .33 and .32. Table 19 contains the sorted rotated factor loadings pattern. Loadings less than .25 have been replaced by zero and the factor loading matrix had been rearranged so that the columns appeared in decreasing order of variance explained by the factors.

Each of the 13 factors or types of school psychologists in turn were discussed in terms of the variables or items showing the primary aspect or major components of their job. Item numbers from Table 5 were used for identification. A type is ventured, but should be considered as tentative only.

Factor 1 is represented by high loadings on school psychologists 29, 12, 3, and 56. Their job responsibilities lay in the areas of screening students, individual assessment of intelligence, learning disabilities, and academic achievement (Items 37 through 42). Report writing, discussion of results with teachers and principals, and recommendations (Items 48, 49, 52, 53) were other components of the job. They assisted with behavioral management programming. These school psychologists were all males, master's level and working in schools. They were obviously diagnosticians.

Factor 2 type of school psychologists are numbers 7, 5, 45, and 53. This type is defined by the nature of their work which involves classroom observations of students, interviewing with

teachers, parents, support personnel, outside professional persons, and outside school agencies (Items 36, 45, 46, 47). This type of psychologist also assisted in coordinating services related to appraisal and evaluation (Items 52 through 56) of children and youths. Other activities involved participation in various local, state, and national organizations and special projects (Items 58 through 61, 66, 71) and render assistance in planning and implementing special projects of the district, supervise transmittal of professional information, behavioral management programming and supervise the work of psychological associates (Items 60, 61, 64, 69). This group is comprised of two Ph.D. males, one Ed.D. female, and one M.S. female school psychologist with the exception of one Ph.D. psychologist who works in higher education and serves as consultant, all others work in schools. Their major activities tended to involve coordination, participation, supervision, planning and implementation. The conclusion is reached that this type might be called Consultant-decision maker and facilitator.

Factor 3 seems to represent school psychologists who are mainly involved in individual intelligence and personality assessment and guidance and counseling. These psychologists are numbers 50, 26, and 23. This group is marked by individual assessment (Items 38, 39), inservice activities, behavioral management programming, and crisis intervention (Items 63, 64, 65). The major component of their job is individual, group, and family counseling (Items 78, 79, 80) and play therapy sessions (Item 81). Two members of

this cluster are master's level female psychologists in educational services and one master's level male psychologist in a guidance center. This group is therefore identified as therapeutic agent.

Factor 4 is marked by school psychologists characterized much like Factor 2; Factor 5, Factor 6, and Factor 7 much like Factor 1. Factor 8 seems to reflect a combination of Factors 1 and 2. The remaining Factors 9, 10, 11, 12, and 13 are either doublets or singlets wherein a type is not identifiable, consequently, no attempt was made at interpretation. The items were so numerous and at times varied that no specific type was discernible.

The findings of the Q-technique factor analysis indicated that only three interpretable factors of school psychology types emerged. These types were: Diagnostician, Consultant-decision maker and facilitator, and Therapeutic Agent. The given interpretations are tenuous.

DISCUSSION AND CONCLUSIONS

The basic idea that school psychologists may be classified into relatively discrete types is one that has received comparatively little attention. A discernible history of typologies of school psychologists is nonexistent, so in considering types of school psychologists the hypothesis was formulated that responses to items related to training and function would produce specific types. The purpose was not to provide proof of the existence of types, but to distinguish "type-dimensions" from general dimensions of school psychologists.

The 62 (94%) eligible certified school psychologists in Oklahoma who responded to the questionnaire suggested that history, vocational development theories and experimental design courses be deleted from their academic program and that courses in the medical aspects of children's learning and emotional problems, community mental health and consultation be added.

The items that related to functions (36 through 82) were of greatest concern. The 46 items were ranked according to mean response. The top five items were related to individual intelligence testing and reporting while the bottom five were related to committees, association meetings, research activity, and budget preparation.

All 46 items were factor analyzed using the R-technique. Fourteen factors emerged, but the first four were most significant. They accounted for 50 percent of the variance explained. These four factors were tentatively interpreted as counseling, diagnosis and evaluation, individual assessment, and administration and organization. The Q-technique factor analysis was performed in an attempt to arrive at types. The analysis involved the transpose data matrix of the other. From this analysis 13 factors emerged which accounted for 80 percent of the variance explained. Only three identifiable factors or types of school psychologists emerged. These were diagnostician, consultant-decision maker and facilitator, and therapeutic agent. The other factors were too underdetermined to warrant an attempt to interpret them as specific types. Although the interpretation of these factors are tenuous, it may be concluded that these results provide a useful method for describing school psychology types and the differences between them.

In looking for types of school psychologists one must be concerned with the criteria used, the instrument employed, the sample selected, and the statistics utilized. The types of school psychologists isolated are of course tentative or tenuous because of these factors. They must be interpreted in view of the limits imposed in the investigation.

In this investigation the R-technique and Q-technique factor analyses were used because they provided rather different kinds of information. With the R-technique the questionnaire items were

correlated with each other where the factors represented clusters of similar variables. With the Q-technique the school psychologists were correlated with each other where the factors represented clusters of similar persons. The reason for the use of Q-technique was interest in types of school psychologists rather than in how the roles and functions grouped themselves.

The types of school psychologists isolated herein were diagnostician, consultant-decision maker and facilitator, and therapeutic agent. It is not likely that these are pure-types because of the limits of the study. It is recommended that a further study be conducted with a more extensive select set of variables broader in scope and many in number. A random sample or sample of available subjects may not contain pure-type individuals, therefore, well defined pure-type individuals should be included in order to provide a good frame of reference for interpreting the factors. Careful planning is a necessity. The knowledge of types would be extremely useful in the preparation and training of school psychologists. According to Comrey, "knowledge of well-defined types and knowledge of type membership can be very useful in the description, prediction, and control of human behavior... Once an individual is classified as belonging to a given type, a great deal is immediately known about him" (1973, p. 219).

The major thrust of this investigation has been to provide an approach to defining types of school psychologists. The R- and Q-technique approaches seemed appropriate for the task, but serious

problems presented themselves. One of the prerequisites for the R-technique is to have more people than test or item variables. In Q-technique there should be many more tests or item variables than people. In this investigation the prerequisite of factor analysis was violated because of the necessary limits of the sample and instrument.

Another kind of problem was introduced when the inverse matrix data were used and the number of variables in the Q analysis was reduced. In R-analysis a large number of persons produces stable correlations to be used in the analysis, but in the Q-analysis the small number of variables undoubtedly did not very stably estimate the correlation coefficients. However, the rotation of the factor loadings did provide a description of the way in which school psychologists tended to cluster together, but the conclusion is of limited generality.

REFERENCE NOTE

1. Report on Psychology in the Schools, Texas Psychological Association, June 25, 1974.

REFERENCES

- Bardon, J. I., & Bennett, V. C. School psychology. New Jersey: Prentice-Hall, Inc., 1974.
- Bardon, J. I., & Wenger, R. D. School psychology training trends in the early 1970's. Professional Psychology, 1976, 7, 31-37.
- Brayfield, A. Community mental health center programs. American Psychologist, 1967, 22, 670-673.
- Cardon, B. W., & French, J. L. Organization and content of graduate programs in school psychology. Journal of School Psychology, 1968-1969, 7, 28-32.
- Cattell, R. B. Factor analysis. New York: Harper, 1952.
- Catteral, D. A competency based school psychology internship. Journal of School Psychology, 1973, 11, 269-275.
- Chartoff, M., & Bardon, J. I. The relationship between position title and where one receives his doctorate in school psychology. Professional Psychology, 1974, 5, 175-177.
- Chartoff, M., & Bardon, J. I. Doctoral school psychology program graduates in the United States: The first seventeen years. Journal of School Psychology, 1974, 12, 188-191.
- Clair, T. N., & Kiraly, J. Curriculum and relevance in the training of school psychologists. Professional Psychology, 1971, 3, 383-388.

- Comrey, A. L. A first course in factor analysis. New York: Academic Press, 1973.
- Fairchild, T. N. An analysis of the services performed by a school psychologist in an urban area: Implications for a training program. Psychology in the Schools, 1974, 11, 275-281.
- Gallissich, J. Training the school psychologist for consultation. Journal of School Psychology, 1974, 12, 138-149.
- Klosterman, D. The role of the school psychologist in a community mental health center. Psychology in the Schools, 1974, 11, 269-274.
- Kruz, R. B. Emerging issues in accommodation of training programs in school psychology. Journal of School Psychology, 1974, 12, 114-120.

APPENDIX A

Certificate Requirements

SCHOOL PSYCHOLOGIST

Role of the School Psychologist

The school psychologist is one who is skilled in psycho-diagnostic and psychoeducational appraisal, competent in measurement and research design, knowledgeable about development and social psychology, versed in curriculum, special learning theory to the classroom and organizational planning in the school program, and one who works with all persons and agencies who are involved with the education of children.

Standard Certificate Requirements

Hold a Master's degree in General Psychology, Educational Psychology, Child Psychology, Special Education, Guidance, or a related area with a minimum of sixty semester hours of graduate credit. The preparation shall include work distributed as follows:

I. Academic Core (14-21 semester hours. Each area, A, B, C-1, C-2, C-3, C-4, and D must be represented.

A. Education

School Curriculum
School Organization and Administration

B. Special Education

(A course dealing with a survey of exceptionality is a prerequisite.)

C. Psychology

1. Educational Psychology
Learning and Instructional Theory
2. Child Psychology
Developmental Psychology
Adolescent Psychology
Human Growth and Development
3. Abnormal Psychology
Clinical Child Psychology
Psychopathology
4. Social Psychology
Sociology

D. Research

Statistics
 Research Design or Methodology

II. Psychoeducational Diagnostic Procedures

(8-12 semester hours. Each area, A-1, A-2, A-3, and B must be represented.)

A. Individual Assessment

1. Cognitive assessment
2. Affective assessment
3. Psycho-motor assessment

B. Standardized Group Assessment (undergraduate or graduate)

III. Interventional Strategies (4-6 semester hours)

Behavior Modification
 Group Techniques
 Educational Remediation
 Techniques of Counseling or Psychotherapy
 Parent Counseling
 Speech Pathology
 In-service Activities
 Referrals to Community Resources

IV. Special Problems in the Practice of School Psychology

(2-4 semester hours)

Practicum

Seminar or professional course in school psychology

V. Internship, Externship, or Experience in School Psychological Services

- A. One semester of full-time internship or externship in school psychological services (0-6 semester hours).

or

- B. At least one academic year of full-time field experience in psychological services related to education.

General Education

The applicant shall hold a bachelor's degree from an accredited four-year college of university. The bachelor's degree will be considered as fulfillment of the general education requirements when it includes a minimum of six semester hours of credit in American History and Government with some credit in each.

APPENDIX B

Questionnaire Presented to Psychologists

Please indicate your relationship to the school system:

1. _____ Full-time employee of a school district or system
2. _____ Part-time employee of a school district or system
3. _____ Contract with a school district or system to provide psychological services (either to provide consultation or to provide direct pupil diagnosis)
4. Did your academic and practicum training adequately prepare you to render services you now provide?

1 _____ My training was adequate

2 _____ I perform occasional functions for which I was not trained

3 _____ I perform major or frequent functions for which I was not adequately trained

4 _____ My training was almost completely irrelevant

5. Do you think deletions, additions, or revisions of present training programs are needed?

1 _____ Yes

2 _____ No

If your answer to question 5 above is yes, please indicate your suggestions or recommendations, using the following key:

	<u>1-Delete</u>	<u>2-Add</u>	<u>3-Revise</u>
6. Personality theory	_____	_____	_____
7. Individual testing	_____	_____	_____
8. Learning theory	_____	_____	_____
9. Experimental design	_____	_____	_____
10. Statistics	_____	_____	_____
11. Seminars	_____	_____	_____
12. Practicum	_____	_____	_____
13. Independent study	_____	_____	_____

	<u>1-Delete</u>	<u>2-Add</u>	<u>3-Revise</u>
14. Special problems	_____	_____	_____
15. Perception	_____	_____	_____
16. History and systems	_____	_____	_____
17. Tests and measurement	_____	_____	_____
18. Theory of intelligence	_____	_____	_____
19. Abnormal	_____	_____	_____
20. Projectives	_____	_____	_____
21. Exceptionality	_____	_____	_____
22. Developmental	_____	_____	_____
23. Counseling theories	_____	_____	_____
24. Vocational development theories	_____	_____	_____
25. Community mental health	_____	_____	_____
26. Internship	_____	_____	_____
27. Classroom context	_____	_____	_____
28. Teacher's role	_____	_____	_____
29. Remediation techniques	_____	_____	_____
30. Language and learning problems	_____	_____	_____
31. Medical aspects of children's learning and emotional problems	_____	_____	_____
32. Consultation	_____	_____	_____
33. Supervised field experience	_____	_____	_____
34. Administration	_____	_____	_____
35. Group dynamics	_____	_____	_____

1-Delete 2-Add 3-Revise

Other:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Indicate the importance of the services you presently provide to a school district or system, using the following key:

- 1 - the primary aspect of a psychologist's job
- 2 - one of the major components of a psychologist's job
- 3 - of some importance in a psychologist's job
- 4 - a minor component of a psychologist's job
- 5 - not performed by psychologists

- 36. _____ Classroom observations of students
- 37. _____ Participate as member of screening committee to screen students for possible psychological, behavioral or academic problems
- 38. _____ Assessment of individual intellectual functioning of pupils via WISC, WAIS, Stanford-Binet, etc.
- 39. _____ Individual perceptual-motor screening evaluation via Bender-Festalt, Harris Lateral Dominance, Frostig, etc.
- 40. _____ Individual language or learning disability screening via Illinois Test of Psycholinguistic Ability, Frostig, etc.
- 41. _____ Individual personality evaluation via Children's Apperception Test, Sentence Completion, Drawing Tasks, Rorschach, etc.
- 42. _____ Individual academic achievement estimate via Peabody Individual Achievement Test, Wide Range Achievement Test, etc.
- 43. _____ Individual social development history for pupils being evaluated or assisted
- 44. _____ Review of pupil's cumulative record form

- 1 - the primary aspect of a psychologist's job
- 2 - one of the major components of a psychologist's job
- 3 - of some importance in a psychologist's job
- 4 - a minor component of a psychologist's job
- 5 - not performed by psychologists

- 45. ___ Interview with teachers that have opportunity to observe a pupil being evaluated or assisted
- 46. ___ Parental interview or written input concerning a pupil's being evaluated or assisted
- 47. ___ Interview of administrator or other support personnel (counselors, diagnosticians, etc.) having information pertaining to pupils being evaluated or assisted
- 48. ___ Write a comprehensive report of findings and recommendations
- 49. ___ Review your findings and recommendations with faculty
- 50. ___ Have reporting session with parents of pupils evaluated or assisted
- 51. ___ Review your findings and recommendations with pupil
- 52. ___ Have reporting or discussion session with the pupil's teachers or principal
- 53. ___ Review your findings and recommendations with pupil's teachers or principal
- 54. ___ Coordinate appraisal input sought from other professionals outside the regular school staff, such as neurologists, psychiatrists and psychologists
- 55. ___ Coordinate with outside of school agencies those services related to evaluation or assisting youth with psychological needs. (Examples might include Mental Health/Mental Retardation, Family and Child Guidance Centers, Rehabilitation)
- 56. ___ Coordinate contracted appraisal services obtained through the Regional Educational Service Centers
- 57. ___ Coordinate certain research activity, such as that which might be related to graduate theses and dissertations

- 1 - the primary aspect of a psychologist's job
- 2 - one of the major components of a psychologist's job
- 3 - of some importance in a psychologist's job
- 4 - a minor component of a psychologist's job
- 5 - not performed by psychologists

- 58. _____ Cooperate with or initiate certain research activities that are part of the school district's function such as program evaluation
- 59. _____ Coordinate activities of graduate interns and practicum students
- 60. _____ Participate in the writing, planning and implementation of special projects of the district
- 61. _____ Supervise transmittal of professional information of psychological nature about pupils
- 62. _____ Participate in Parent-Teacher Association meetings
- 63. _____ Participate in staff development or in-service activities for teachers
- 64. _____ Assist with behavioral management programming
- 65. _____ Participate by accepting duties of a crisis intervention nature
- 66. _____ Participate in certain public business, professional, service and parent groups
- 67. _____ Contribute by teaching at nearby college or university formal courses for college credit
- 68. _____ Participate as member of an Admission, Review, and Dismissal (ARD) Committee for special education placement
- 69. _____ Supervise work of psychological associate(s)
- 70. _____ Assist with or prepare budget
- 71. _____ Member of committees formed on interdepartmental basis, such as Teacher Education Centers, Reading Clinics, Student Affairs
- 72. _____ Participate in due process hearings for students related to certain disciplinary actions, such as drug abuse, corporal punishment, or suspensions

- 1 - the primary aspect of a psychologist's job
- 2 - one of the major components of a psychologist's job
- 3 - of some importance in a psychologist's job
- 4 - a minor component of a psychologist's job
- 5 - not performed by psychologists

- 73. _____ Coordinate legal inquiries of a psychological nature about a student, such as with the juvenile authority, custody cases, and criminal court inquiries
- 74. _____ Recommend employment of personnel providing services of a psychological nature
- 75. _____ Plan and implement staff development programs for psychological services personnel
- 76. _____ Participate in professional organizations at local, state and national level
- 77. _____ Psychological services for school staff or school personnel
- 78. _____ Individual counseling and guidance with pupils
- 79. _____ Group counseling sessions with pupils
- 80. _____ Family guidance and/or counseling
- 81. _____ Play therapy sessions
- 82. _____ Develop academic programs for specific pupils
- 83. _____ Other (Specify) _____

APPENDIX C

Letter of Permission to Use Questionnaire



**TEXAS
PSYCHOLOGICAL
ASSOCIATION**

51

P. O. BOX 9404
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February 2, 1976

Steve Ramsey, M.S.
Pottawatomie County Health Department
Shawnee, Oklahoma 74801

Dear Mr. Ramsey:

Please feel free to use the questionnaires contained in the publication A Report on Psychology in the Schools in your research into school psychology in Oklahoma. Since this study was a joint effort between the Hogg Foundation for Mental Health and Texas Psychological Association we would appreciate your acknowledging this in your research work.

Sincerely,

Mrs. David Meadows
Administrative Secretary

APPENDIX D

Numerical and Percentage
Responses to Questionnaire

ITEM
Task Description

	1		2		3		4		5	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
36. Classroom observations of students	4	6	24	39	23	37	9	14	1	1
37. Participate as member of screening committee to screen students for possible psychological, behavioral or academic problems	19	31	22	35	13	21	7	11	1	1
38. Assessment of individual intellectual functioning of pupils via WISC, WAIS, Stanford-Binet, etc.	23	37	26	42	7	11	4	6	2	3
39. Individual perceptual-motor screening evaluation via Bender-Gestalt, Harris Lateral Dominance, Frostig, etc.	19	31	27	44	6	9	3	5	7	11
40. Individual language or learning disability screening via Illinois Test of Psycholinguistic Ability, Frostig, etc.	12	19	29	47	8	12	9	14	4	6
41. Individual personality evaluation via Children's Apperception Test, Sentence Completion, Drawing Tasks, Rorschach, etc.	11	17	29	47	9	14	7	11	6	9
42. Individual academic achievement estimate via Peabody Individual Achievement Test, Wide Range Achievement Test, etc.	9	14	31	50	13	21	5	8	4	6
43. Individual social development history for pupils being evaluated or assisted	2	3	22	35	13	21	13	21	12	19
44. Review of pupil's cumulative record form	6	9	14	23	24	39	12	19	6	9
45. Interview with teachers that have opportunity to observe pupil being evaluated or assisted	18	29	28	45	9	14	4	6	3	5
46. Parental interview or written input concerning a pupil's being evaluated or assisted	18	29	28	45	11	17	1	1	4	6

ITEM
Task Description

	1		2		3		4		5	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
47. Interview of administrator or other support personnel (counselors, diagnosticians, etc.) having information pertaining to pupils being evaluated or assisted	20	32	25	40	12	19	3	5	2	3
48. Write a comprehensive report of findings and recommendations	27	44	20	32	9	14	3	5	3	5
49. Review your findings and recommendations with faculty	17	27	25	40	11	17	5	8	4	6
50. Have reporting sessions with parents of pupils evaluated or assisted	23	37	22	35	11	17	3	5	3	5
51. Review your findings and recommendations with pupil	9	14	25	40	14	23	5	8	9	14
52. Have reporting or discussion session with the pupil's teachers or principal	17	27	31	50	11	17	1	1	2	3
53. Review your findings and recommendations with pupil's teachers or principal	19	31	34	55	4	6	3	5	2	3
54. Coordinate appraisal input sought from other professionals outside the regular school staff, such as neurologists, psychiatrists and psychologists	13	21	29	47	23	4	6	2	2	3
55. Coordinate with outside of school agencies those services related to evaluation or assisting youth with psychological needs. (Examples might include Mental Health/Mental Retardation, Family and Child Guidance Centers, Rehabilitation	18	29	20	32	13	21	8	12	3	5
56. Coordinate contracted appraisal services obtained through the Regional Educational Service Centers	13	21	15	24	10	16	16	26	8	12
57. Coordinate certain research activity, such as that which might be related to graduate theses and dissertations	5	8	3	5	16	26	24	39	14	23

ITEM
Task Description

	1		2		3		4		5	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
58. Cooperate with or initiate certain research activities that are part of the school district's function such as program evaluation	4	6	10	16	24	39	21	34	3	5
59. Coordinate activities of graduate interns and practicum students	4	6	6	9	30	48	18	29	4	6
60. Participate in the writing, planning and implementation of special projects of the district	3	5	8	12	30	48	17	27	4	6
61. Supervise transmittal of professional information of psychological nature about pupils	7	11	26	42	18	29	8	12	3	6
62. Participate in Parent-Teacher Association meetings	2	3	1	1	29	47	23	37	7	11
63. Participate in staff development or in-service activities for teachers	8	12	21	34	30	48	1	1	2	3
64. Assist with behavioral management programming	14	23	24	39	17	27	7	11	0	0
65. Participate by accepting duties of a crisis intervention center	19	31	22	35	12	19	9	14	0	0
66. Participate in certain business, professional, service and parent groups	5	8	9	14	43	69	4	6	1	1
67. Contribute by teaching at nearby college or university formal courses for college credit	1	1	6	9	21	34	27	44	7	11
68. Participate as member of an Admission, Review, and Dismissal (ARD) Committee for special education placement	11	17	18	29	22	35	6	9	5	8
69. Supervise work of psychological associate(s)	9	14	16	26	14	23	20	32	3	5

	ITEM									
	<u>Task Description</u>									
	1		2		3		4		5	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
70.	Assist with or prepare budget									
	3	5	6	9	13	21	29	47	11	17
71.	Member of committees formed on interdepartmental basis, such as Teacher Education Centers, Reading Clinics, Student Affairs									
	4	6	4	6	24	39	22	35	8	12
72.	Participate in due process hearings for students related to certain disciplinary actions, such as drug abuse, corporal punishment, or suspensions									
	5	8	4	6	18	29	29	47	6	9
73.	Coordinate legal inquiries of a psychological nature about a student, such as with the juvenile authority, custody cases, and criminal court inquiries									
	5	8	10	16	26	42	18	29	3	5
74.	Recommend employment of personnel providing services of a psychological nature									
	3	5	12	19	42	18	29	3	3	5
75.	Plan and implement staff development programs for psychological services personnel									
	5	8	15	24	25	40	10	16	7	11
76.	Participate in professional organizations at local, state and national level									
	10	16	21	34	25	40	6	9	0	0
77.	Psychological services for school staff or school personnel									
	12	19	8	12	17	27	15	24	10	16
78.	Individual counseling and guidance with pupils									
	22	35	16	26	13	21	5	8	6	9
79.	Group counseling sessions with pupils									
	13	21	20	32	12	19	11	17	6	9
80.	Family guidance and/or counseling									
	13	21	19	31	8	12	13	21	9	14
81.	Play therapy sessions									
	10	16	15	24	10	16	12	19	15	24
82.	Develop academic programs for specific pupils									
	4	6	19	31	15	24	17	27	7	11

APPENDIX E

R-Technique Statistics

TABLE 6

Intercorrelation Matrix of Items

Item No.	Item 36	Item 37	Item 38	Item 39	Item 40	Item 41	Item 42	Item 43	Item 44
36	1.00								
37	-.12								
38	-.05	.34							
39	.03	.38	.78						
40	.10	.32	.62	.79					
41	.03	.02	.34	.17	.07				
42	.11	.44	.49	.52	.55	.09			
43	.11	.22	.16	.25	.21	.30	.36		
44	.22	.03	-.01	.08	.20	-.23	.18	.12	
45	.22	.06	.03	-.03	.12	-.25	.26	.23	.53
46	.32	.01	-.00	-.01	.11	-.03	.10	.48	.35
47	.27	-.01	.11	.11	.21	-.13	.25	.29	.44
48	.13	.28	.39	.48	.54	.18	.48	.27	.10
49	.16	.07	-.10	-.09	.06	-.14	.17	.47	.23
50	.09	-.04	-.09	-.14	-.07	.05	.20	.50	.23
51	-.06	-.23	-.18	-.26	-.03	.25	-.13	.24	.04
52	.22	.05	-.06	-.05	.12	-.14	.25	.25	.45
53	.36	.05	-.08	-.05	.13	-.09	.13	.30	.40
54	.18	-.00	-.17	-.08	.18	-.07	.01	.25	.21
55	.11	-.12	-.17	-.08	.13	-.18	-.06	.18	.33
56	-.04	.05	-.00	.10	.27	-.19	.03	.11	.24
57	.04	-.04	-.16	-.21	-.15	-.07	.01	.19	.14
58	.00	.01	-.47	-.18	-.09	-.31	-.11	.09	.18
59	.13	-.05	-.11	-.02	.05	-.09	-.02	.13	.18
60	.05	-.02	-.32	-.23	-.16	-.28	-.16	-.07	.08

Table 6 (continued)

Intercorrelation Matrix of Items

Item No.	Item 36	Item 37	Item 38	Item 30	Item 40	Item 41	Item 42	Item 43	Item 44
61	21	-08	07	10	17	-06	-04	10	36
62	-07	20	-03	-04	12	-06	-18	07	31
63	09	-13	-22	-31	-09	-29	-17	-04	06
64	-06	-24	-23	-29	-28	02	-28	-01	-13
65	-14	-08	-09	-23	-26	15	-22	17	-40
66	24	08	-16	-36	-23	-09	-08	-16	01
67	09	-30	-27	-09	-07	-14	-14	16	20
68	-05	20	09	12	21	-08	26	43	30
69	07	-21	-12	-04	02	-03	-13	08	14
70	-02	-11	-05	-03	-06	-12	-17	-05	-01
71	27	-19	-34	-12	-06	-16	-27	05	33
72	09	-09	-27	-12	-01	-23	-06	11	11
73	20	-02	-27	-31	-28	-19	-23	14	03
74	09	-15	-29	-23	-17	-14	-31	05	09
75	04	-11	-04	-00	-11	-08	-18	11	01
76	20	11	-14	-13	-08	-20	-21	-07	15
77	-13	-18	01	-03	-16	04	-06	12	-14
78	-20	-21	-02	-16	-15	31	-03	23	-23
79	-19	-22	-02	-15	-14	33	-01	21	-29
80	04	-17	-09	-23	-13	34	-06	27	-23
81	-09	-12	-10	-17	-08	33	-07	18	-35
82	11	05	-10	-23	-23	-13	-01	07	12

Table 6 (continued)

Intercorrelation Matrix of Items

Item No.	Item 45	Item 46	Item 47	Item 48	Item 49	Item 50	Item 51	Item 52	Item 53
46	61								
47	60	62							
48	-09	-01	19						
49	44	50	41	11					
50	42	61	38	06	70				
51	19	34	26	-05	40	51			
52	72	52	64	04	57	51	34		
53	65	62	62	15	67	52	33	84	
54	22	31	43	22	48	21	35	52	57
55	31	48	54	06	51	48	41	55	54
56	13	34	40	10	23	20	31	31	26
57	18	27	10	-33	32	28	15	14	03
58	00	18	14	01	29	08	13	15	19
59	16	40	24	-15	22	18	18	22	27
60	10	13	22	-10	16	-05	02	14	10
61	26	38	46	-09	17	19	15	31	35
62	18	29	18	-04	24	11	19	15	19
63	26	36	36	-10	29	14	18	32	34
64	20	25	-02	-24	12	22	28	11	16
65	-12	-02	-19	-16	02	15	26	-16	-19
66	06	16	15	05	01	02	-08	11	08
67	25	35	46	-11	31	17	10	23	21
68	32	32	29	20	34	30	15	27	27
69	04	27	17	-04	02	-00	12	04	08

Table 6 (continued)

Intercorrelation Matrix of Items

Item No.	Item 45	Item 46	Item 47	Item 48	Item 49	Item 50	Item 51	Item 52	Item 53
70	-02	21	08	-08	-06	-05	-06	-07	02
71	23	37	37	-15	20	05	17	13	17
72	15	25	18	-19	09	04	09	01	05
73	12	17	-02	-20	14	19	15	07	06
74	05	30	18	-18	05	08	21	05	06
75	12	20	24	-17	01	03	13	11	03
76	-03	19	07	01	14	04	-11	01	17
77	18	19	19	-22	04	10	12	06	05
78	-00	08	-01	-21	05	26	40	-03	-05
79	00	03	-04	-18	05	19	33	-02	-04
80	07	17	-02	-23	05	27	37	06	01
81	-05	05	-10	-10	-05	13	30	01	-02
82	16	16	08	-08	15	24	21	07	07

Table 6 (continued)

Intercorrelation Matrix of Items

Item No.	Item 54	Item 55	Item 56	Item 57	Item 58	Item 59	Item 60	Item 61	Item 62
55	74								
56	51	63							
57	23	30	16						
58	36	29	34	33					
59	26	29	31	41	58				
60	26	26	27	30	67	43			
61	39	44	27	12	18	47	29		
62	30	36	35	15	22	29	33	33	
63	43	41	13	10	28	39	41	30	29
64	-01	09	-05	06	14	29	07	-06	15
65	-04	-02	-23	12	-17	02	-22	-15	-04
66	13	14	-00	17	17	22	22	-06	21
67	34	42	24	34	45	35	50	25	20
68	43	41	45	14	16	30	11	36	22
69	28	32	35	26	37	67	34	45	34
70	03	19	16	22	32	59	36	36	32
71	32	44	38	29	46	38	45	27	40
72	31	34	25	31	45	35	35	37	21
73	15	15	-10	19	17	17	09	22	18
74	28	38	24	36	43	59	32	49	40
75	18	26	18	12	23	33	32	34	25
76	26	36	04	06	13	23	10	10	32
77	06	15	-03	13	-08	00	-03	05	-07

Table 6 (continued)

Intercorrelation Matrix of Items

	Item 54	Item 55	Item 56	Item 57	Item 58	Item 59	Item 60	Item 61	Item 62
Item No.									
78	02	02	-27	22	-22	-11	-26	-07	-07
79	00	-05	-24	24	-16	-03	-16	-11	-02
80	03	03	-27	32	-12	17	-23	-01	02
81	-03	-09	-18	-01	-06	08	-22	-15	-01
82	09	11	19	17	13	08	-02	-05	03

Table 6 (continued)

Intercorrelation Matrix of Items

Item No.	Item 63	Item 64	Item 65	Item 66	Item 67	Item 68	Item 69	Item 70	Item 71
64	40								
65	20	51							
66	53	24	13						
67	28	12	-12	13					
68	28	07	14	-01	15				
69	27	17	-01	14	38	23			
70	31	07	-02	38	30	09	63		
71	25	08	-25	23	72	06	47	43	
72	18	16	-08	03	43	25	58	30	55
73	28	24	41	18	12	13	32	21	18
74	39	27	16	32	30	12	73	64	53
75	19	12	16	-01	41	02	51	26	37
76	40	08	12	41	09	08	22	23	22
77	01	21	20	-10	27	-01	11	-03	22
78	-10	25	49	-06	09	-07	-08	00	-03
79	-11	38	49	-08	10	-10	01	-03	-06
80	05	40	60	11	09	-04	07	05	-00
81	-01	55	56	01	03	-07	08	-05	-12
82	-00	19	21	-05	-02	33	15	-04	02

Table 6 (continued)

Intercorrelation Matrix of Items

Item No.	Item 72	Item 73	Item 74	Item 75	Item 76	Item 77	Item 78	Item 79	Item 80	Item 81
73	38									
74	60	46								
75	30	43	52							
76	11	28	26	22						
77	27	13	22	43	00					
78	05	14	10	11	-05	46				
79	04	13	10	17	-09	48	90			
80	10	33	22	13	02	35	71	74		
81	08	21	11	20	-08	24	55	69	73	
82	05	17	12	18	10	12	30	22	04	09

NOTE: Decimal points omitted.

TABLE 7

Unrotated Factor Loadings (Pattern) for Principal Components

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
36	23	-22	00	-08	28	-36	35
37	-10	-44	10	19	38	23	14
38	-30	-46	31	54	14	-24	-01
39	-21	-60	18	61	-03	-15	-03
40	-01	-64	23	49	06	-06	-11
41	-24	12	42	36	04	-09	-15
42	-08	-56	43	23	07	-08	-09
43	31	-15	57	26	00	14	-02
44	43	-48	-02	-15	-10	-05	29
45	52	-26	34	-28	-06	-28	28
46	70	-13	31	-04	08	-24	06
47	63	-36	25	-06	-09	-32	03
48	-09	-55	21	24	28	09	-27
49	58	-19	39	-34	01	09	-19
50	48	-02	58	-26	01	04	-13
51	42	23	44	-10	-14	21	-21
52	59	-32	39	-36	-02	-14	06
53	62	-34	36	-35	08	-16	05
54	66	-19	12	-04	03	27	-11
55	76	-15	09	-07	-04	17	-06
56	52	-35	-09	12	-16	37	-24
57	45	23	02	04	-15	-02	-16
58	56	02	-40	-02	-11	22	-30
59	65	09	-21	28	13	-12	-27
60	53	00	-50	-03	-13	04	-13

Table 7 (continued)

Unrotated Factor Loadings (Pattern) for Principal Components

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
61	58	-18	-08	26	-06	-09	17
62	50	-05	-15	18	19	19	07
63	57	11	-16	-21	44	-11	-16
64	28	54	18	-11	25	-04	-09
65	-01	65	36	-8	39	20	-03
66	27	17	-24	-17	63	-27	-15
67	61	11	-14	06	-36	-26	-13
68	45	-28	22	14	15	45	-08
69	59	17	-32	49	01	-01	-07
70	42	17	-42	38	18	-21	-19
71	65	07	-34	11	-26	-18	07
72	55	17	-24	30	-22	09	14
73	38	40	-03	06	29	17	45
74	64	36	-31	33	09	-02	01
75	45	27	-11	36	-14	-07	23
76	33	07	-24	-02	51	04	25
77	20	37	26	18	-36	-19	23
78	03	60	58	16	-16	-02	04
79	03	63	57	22	-15	-03	01
80	14	64	53	19	12	-13	07
81	01	60	47	21	12	02	-03
82	21	19	17	-12	-05	39	02

Table 7 (continued)

Unrotated Factor Loadings (Pattern) for Principal Components

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
36	-08	43	-19	-13	-12	-25	12
37	39	13	-02	21	15	11	-07
38	04	-27	07	07	-04	09	-06
39	10	-14	-02	13	09	-14	-02
40	-01	-07	-04	05	12	-4	-01
41	-18	10	-43	-17	-14	03	11
42	24	29	27	02	09	11	01
43	22	31	-10	-02	-02	-18	-02
44	10	-04	03	-17	-19	25	15
45	18	-12	23	-08	16	19	12
46	15	-08	-08	-07	-10	-04	20
47	-18	-03	15	12	-01	05	11
48	-26	22	04	15	-06	-18	20
49	16	13	-09	10	-04	-16	-17
50	15	05	-01	-13	-23	-08	-01
51	-23	-13	-26	-20	-08	-01	09
52	-03	-11	-02	-06	20	02	-07
53	-07	-10	-15	-06	12	-14	-03
54	34	07	-12	21	02	-08	-23
55	-29	-12	-05	19	-18	-00	-14
56	-20	-16	-01	06	-11	07	25
57	48	22	-09	07	-25	24	-22
58	24	27	-12	04	28	-14	08
59	28	-08	-07	-27	11	-07	01
60	09	16	-06	10	35	11	-05

Table 7 (continued)

Unrotated Factor Loadings (Pattern) for Principal Components

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
61	-17	-18	09	-38	-06	-02	-33
62	-03	-24	-24	06	03	41	-02
63	-18	-16	18	09	21	02	-14
64	03	-22	03	-08	38	01	34
65	01	-09	15	04	02	-11	-07
66	-07	19	07	19	-09	31	08
67	-11	26	05	26	07	03	07
68	06	-02	37	-10	-02	09	02
69	-03	-06	07	-21	-11	-12	15
70	08	-07	05	-14	-12	15	-09
71	-12	20	-13	17	-12	11	21
72	-00	27	19	-06	07	-02	01
73	04	19	19	-13	-06	-22	-12
74	-01	-05	06	-14	-12	-05	-08
75	-05	-15	17	20	07	-32	-01
76	01	-13	-18	43	-24	-10	-05
77	-03	-12	22	40	05	-10	-02
78	00	-00	-02	17	-15	19	-10
79	-00	04	-04	16	07	19	-03
80	-00	15	-13	-07	63	14	-09
81	-12	05	-07	-06	34	-02	18
82	32	-19	31	10	-29	-06	40

TABLE 8

Variance Explained by Factor

Factor	Variance Explained	Cumulative Proportion of Total Variance
1	9.614	0.192
2	5.967	0.312
3	4.919	0.410
4	3.094	0.472
5	2.254	0.517
6	1.995	0.557
7	1.814	0.593
8	1.721	0.628
9	1.546	0.658
10	1.477	0.688
11	1.336	0.715
12	1.244	0.740
13	1.150	0.763
14	1.113	0.785
15	0.956	0.804
16	0.914	0.822
17	0.884	0.840
18	0.789	0.856
19	0.724	0.870
20	0.663	0.883
21	0.583	0.895
22	0.546	0.906
23	0.528	0.917
24	0.483	0.926
25	0.430	0.935
26	0.386	0.943
27	0.356	0.950
28	0.337	0.957
29	0.260	0.962
30	0.227	0.966
31	0.204	0.970
32	0.185	0.974
33	0.166	0.977
34	0.142	0.980
35	0.138	0.983
36	0.132	0.986
37	0.126	0.988
38	0.099	0.990
39	0.079	0.992
40	0.075	0.993
41	0.073	0.995

Table 8 (continued)

Variance Explained by Factor

Factor	Variance Explained	Cumulative Proportion of Total Variance
42	0.057	0.996
43	0.046	0.997
44	0.043	0.998
45	0.038	0.998
46	0.031	0.999
47	0.023	0.999
48	0.015	1.000
49	0.007	1.000
50	0.005	1.000

NOTE: The variance explained by each factor is the eigenvalue for that factor.

TABLE 9
Residual Correlations

Item No.	Item 36	Item 37	Item 38	Item 39	Item 40	Item 41	Item 42	Item 43	Item 44
36	24								
37	04	29							
38	01	-02	14						
39	02	-02	-00	10					
40	05	-06	-05	04	25				
41	-03	07	04	-05	-15	30			
42	-00	-05	-04	-03	-00	-01	19		
43	-10	-05	-01	-02	-08	04	-08	28	
44	-05	-08	-03	04	05	-01	-01	01	31
45	-01	-00	00	-01	03	01	-03	00	-03
46	-03	01	-00	-02	-01	-02	-04	08	-10
47	-02	04	01	-03	-07	01	-01	03	-03
48	-07	-05	-02	-02	-02	-04	-01	-02	09
49	-02	-02	01	03	03	-03	-02	-00	-02
50	-07	-00	03	03	-04	-03	02	01	-04
51	02	08	04	-00	05	-02	04	-06	-01
52	-02	02	-01	-02	-03	03	05	-05	00
53	-00	03	-02	-03	-03	01	-01	-03	-02
54	06	-02	00	-02	02	04	02	-05	02
55	02	-02	-01	04	03	-03	03	-05	-01
56	07	05	03	-01	00	-07	-00	-03	-12
57	07	-05	06	01	04	-01	-00	-08	-01
58	-04	-01	-01	01	02	-01	01	-04	11
59	04	-02	-01	-02	00	-01	04	-06	04
60	04	-01	07	-03	-06	10	00	02	-06

Table 9 (continued)

Residual Correlations

Item No.	Item 36	Item 37	Item 38	Item 39	Item 40	Item 41	Item 42	Item 43	Item 44
61	04	03	-00	-00	-03	05	-02	-03	-01
62	-02	06	-03	00	-01	01	-04	06	03
63	-01	-06	02	-00	03	04	02	07	-00
64	03	-05	03	08	01	-00	-02	-00	04
65	04	-03	01	05	01	-02	-06	04	03
66	-01	03	02	-02	-06	04	01	02	-01
67	-04	-04	01	05	-02	03	-08	05	05
68	03	-07	00	01	-04	10	-08	06	-01
69	-03	-03	-02	-05	-01	01	06	-01	00
70	-05	-01	-04	01	-05	-05	-00	04	-08
71	02	05	-02	06	03	-01	-05	04	01
72	-02	03	01	00	07	-03	01	-05	-05
73	-08	-01	06	04	05	-03	-02	-03	02
74	00	06	-04	-01	00	-02	01	-00	01
75	-00	07	03	-05	-07	08	03	02	03
76	-05	-08	-04	-01	03	-02	06	-02	07
77	-01	04	-01	-04	-07	08	01	01	-03
78	02	-01	-02	01	04	-05	02	-02	02
79	04	-04	-02	-01	02	-04	03	-06	02
80	01	-02	-03	00	06	-07	00	-05	02
81	00	03	-04	-02	04	-06	01	-05	04
82	10	04	-01	-02	01	06	03	-08	-02

Table 9 (continued)

Residual Correlations

Item No.	Item 45	Item 46	Item 47	Item 48	Item 49	Item 50	Item 51	Item 52	Item 53
45	12								
46	-02	23							
47	-05	00	22						
48	02	-04	-00	22					
49	01	-03	-04	-00	21				
50	-04	04	-02	02	04	24			
51	03	-02	03	-01	00	-01	27		
52	-00	-09	-01	01	-06	-03	-02	18	
53	00	-04	-02	04	00	-05	-06	03	14
54	04	-04	-03	-01	-07	-14	-05	05	05
55	-01	-01	-03	-04	-04	05	-04	02	-02
56	-01	05	01	-09	-04	02	-01	05	-01
57	03	-03	00	-03	-04	-06	-01	03	-04
58	-02	-02	03	07	-04	-01	02	01	02
59	-03	-06	00	-04	-02	-03	-01	01	02
60	-01	02	06	-00	-01	06	05	-02	-03
61	-05	01	06	00	-00	01	-03	-04	-00
62	01	01	-03	04	13	06	-01	-05	-01
63	-02	05	02	-05	-00	-02	05	-06	-07
64	-02	-02	-08	00	05	04	-05	-06	-02
65	03	01	05	-03	-00	-03	01	-03	-07
66	-02	-02	01	00	-05	00	03	06	00
67	-01	01	-01	-02	04	03	-06	-03	-03
68	01	02	-02	-06	-01	-06	-07	-05	-01

Table 9 (continued)

Residual Correlations

Item No.	Item 45	Item 46	Item 47	Item 48	Item 49	Item 50	Item 51	Item 52	Item 53
69	02	-05	-04	02	03	-03	-04	07	05
70	02	03	-01	06	02	02	-03	03	09
71	02	-01	-05	-02	05	-01	04	-04	-03
72	02	04	-03	-04	01	01	02	-04	02
73	02	-01	-01	03	04	03	08	04	-02
74	01	-02	02	08	-02	-01	02	03	01
75	02	-04	02	-01	-01	04	06	06	-05
76	-01	-02	-03	-00	01	03	-04	-03	02
77	-02	03	-04	01	00	02	01	-01	03
78	-03	-01	01	03	-02	-03	02	-01	04
79	-02	-05	00	06	02	-02	-04	01	06
80	01	-02	01	-00	-05	-03	-01	02	-01
81	-02	-01	00	-01	-02	-00	-06	04	02
82	-02	-07	03	01	-03	-10	-01	04	06

Table 9 (continued)

Residual Correlations

Item No.	Item 54	Item 55	Item 56	Item 57	Item 58	Item 59	Item 60	Item 61	Item 62
54	20								
55	-02	16							
56	-01	04	22						
57	08	06	10	24					
58	00	-01	-04	-04	14				
59	03	-00	03	01	02	17			
60	-04	-02	-02	01	-03	-03	27		
61	01	-03	-03	-02	05	01	08	19	
62	-06	-08	-06	-08	-02	-08	00	-01	33
63	00	-04	-05	02	-02	-02	04	00	-05
64	-00	06	-01	05	-02	-03	-04	01	01
65	-02	03	03	06	-03	-00	03	-01	-02
66	02	-01	04	-01	03	-01	-01	00	-05
67	-04	-02	-06	-03	-03	-00	-01	02	04
68	03	-02	-04	00	-05	03	01	03	-06
69	05	-00	-03	02	-06	00	-01	-06	00
70	-06	01	-01	-12	01	-03	-00	-05	-04
71	-03	-02	-02	-06	-02	-01	-07	-04	05
72	04	04	-01	-00	-02	-06	-10	-02	-00
73	-02	-02	01	02	03	-05	00	-06	08
74	00	-01	00	-02	02	-05	-06	-03	01
75	-05	-03	03	02	00	-00	10	-01	10
76	-03	02	-06	-05	03	08	-03	03	-05
77	-01	-00	03	-01	01	04	-01	-00	-02

Table 9 (continued)

Residual Correlations

Item No.	Item 54	Item 55	Item 56	Item 57	Item 58	Item 59	Item 60	Item 61	Item 62
78	02	-03	-06	-09	05	00	01	04	-06
79	03	-03	-02	-01	03	02	03	04	-01
80	02	03	03	03	03	06	-06	-02	-04
81	01	03	03	01	01	01	-08	-00	02
82	09	-04	-06	-03	04	02	07	09	-02

Table 9 (continued)

Residual Correlations :

Item No.	Item 63	Item 64	Item 65	Item 66	Item 67	Item 68	Item 69	Item 70	Item 71
63	20								
64	-01	20							
65	-00	02	21						
66	-04	-02	-03	13					
67	01	02	07	-06	23				
68	05	03	05	-02	10	26			
69	-01	-03	-04	-00	-01	-03	18		
70	-05	-06	-03	-00	01	-02	00	29	
71	02	04	03	-02	02	03	-06	03	17
72	01	08	-05	-01	-08	-01	02	-07	00
73	-00	-01	-01	-01	04	-07	-03	02	03
74	-02	02	-03	05	-10	-09	-01	-01	02
75	-04	-08	-01	04	01	-08	-00	-04	-02
76	-01	01	-05	-05	04	04	03	-01	-03
77	-00	03	-03	06	-10	05	00	-00	-00
78	02	-02	-04	-00	-01	-02	-02	07	-00
79	-02	-01	-05	-02	-04	-04	04	04	-05
80	-01	-03	01	-02	-00	01	-00	-03	-00
81	-07	-05	-05	-01	01	-03	02	00	-02
82	01	-06	-07	01	-02	-03	01	02	-02

Table 9 (continued)

Residual Correlations

Item No.	Item 72	Item 73	Item 74	Item 75	Item 76	Item 77	Item 78	Item 79	Item 80
72	33								
73	-03	23							
74	04	-03	19						
75	-17	03	-01	31					
76	05	-07	-06	-04	20				
77	02	-04	04	-08	-03	27			
78	01	-01	01	-05	02	-06	15		
79	-03	-02	01	-01	04	-04	07	14	
80	-01	-01	-02	-02	02	-00	-03	-03	14
81	02	-02	-01	03	05	-07	-02	01	03
82	-06	-03	00	03	-02	-07	09	08	00

Item No.	Item 81	Item 82
81	18	
82	02	23

TABLE 10
Rotated Factor Loadings (Pattern)

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
36	-10	24	-05	05	-06	-03	14
37	-03	-02	49	-20	-06	10	15
38	07	07	82	12	-12	-38	02
39	-09	-04	89	08	-06	-07	-20
40	-02	08	81	08	13	-01	-08
41	57	-21	24	06	04	-17	-12
42	07	24	66	-13	-19	13	00
43	36	05	34	02	18	17	-24
44	-24	60	-04	11	-05	-08	-02
45	01	95	02	-03	-16	-00	03
46	12	59	10	20	08	00	08
47	-04	62	23	03	22	05	14
48	-16	-21	62	-17	28	03	14
49	06	28	-03	-15	50	22	-03
50	23	36	-10	03	29	-07	-08
51	39	12	-21	09	46	-03	-23
52	-00	75	00	-08	31	06	-04
53	-06	65	01	-05	40	02	-03
54	02	-00	04	01	82	19	06
55	-02	16	-04	12	75	00	10
56	-22	03	18	12	43	19	-06
57	36	02	-14	20	-00	29	11
58	-16	-13	-10	12	12	82	-05
59	02	10	12	68	--7	34	05
60	-14	04	-12	10	06	70	10

Table 10 (continued)

Rotated Factor Loadings (Pattern)

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
61	-11	27	03	75	23	-17	-19
62	16	15	06	24	25	04	25
63	-11	23	-10	22	31	10	51
64	32	27	-17	06	-18	16	17
65	46	-25	-11	09	08	-21	17
66	08	07	-07	03	-02	07	90
67	12	15	-02	04	13	53	12
68	-08	14	23	24	24	05	-01
69	-04	-11	07	75	-03	16	00
70	02	-09	08	71	-11	10	31
71	03	13	-14	16	08	38	17
72	05	-02	-09	39	-04	40	-09
73	08	-06	-34	35	02	-09	05
74	08	-10	-15	72	08	09	13
75	-00	-05	07	33	09	06	-09
76	-12	-14	-05	-01	34	-21	52
77	32	12	06	-11	01	-01	-08
78	82	-02	-07	-07	07	-17	-00
79	87	-01	-01	-11	-02	01	-02
80	87	04	-10	13	-03	-07	08
81	70	-03	01	-01	-09	11	-03
82	-06	05	-15	-07	-09	-09	-03

Table 10 (continued)

Rotated Factor Loadings (Pattern)

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
36	-03	-20	-13	13	-04	-03	76
37	-15	10	-25	07	50	-10	02
38	06	-08	-02	-06	01	-04	-12
39	15	-09	-10	-10	01	-02	01
40	-04	-12	-03	08	-04	02	-05
41	-28	-13	-11	02	-31	03	19
42	-10	11	28	11	20	-16	11
43	-06	20	01	-03	19	-11	36
44	-12	16	-17	21	-10	-28	03
45	11	10	02	03	09	02	-00
46	02	21	-15	-17	-12	01	25
47	24	02	11	05	-22	-02	10
48	-12	14	14	16	-15	13	27
49	-10	15	12	-29	17	-12	20
50	-18	33	17	-21	03	-11	23
51	-21	16	-00	-04	-26	16	-03
52	-04	-08	05	-09	08	10	04
53	-06	-08	-04	-18	02	16	22
54	07	-05	02	09	05	-01	03
55	13	10	-02	03	-10	-12	-05
56	-06	37	-11	17	-32	01	-22
57	-08	14	-00	-25	12	-58	-04
58	-07	09	-09	-12	06	06	05
59	-15	06	-08	-28	03	11	03
60	05	-17	-10	02	06	-01	-16

Table 10 (continued)

Rotated Factor Loadings (Pattern)

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Fac or 12	Factor 13	Factor 14
61	06	-20	08	09	09	-09	-01
62	-15	00	-44	15	02	-05	-34
63	05	-10	14	-08	17	32	-10
64	-01	17	-09	-10	-01	63	-10
65	07	24	10	-06	31	31	01
66	-15	-05	04	07	-02	00	08
67	38	-08	10	02	-29	-15	06
68	-11	48	18	26	25	02	-14
69	12	18	-10	05	-18	08	09
70	-03	-05	-01	-09	-07	-11	-10
71	26	-01	-22	15	-40	-22	11
72	28	08	03	28	04	-10	08
73	21	14	-04	22	43	97	35
74	15	07	-06	-00	01	-02	04
75	65	07]	-12	-05	03	14	07
76	20	08	-46	-10	17	-05	16
77	76	06	02	-07	-04	-02	-07
78	22	10	07	-03	-02	-16	-11
79	22	03	03	01	-01	01	-13
80	02	-08	02	02	09	04	11
81	05	00	00	09	02	48	05
82	11	87	-07	-04	-01	01	-08

TABLE 11

Factor Correlations for Rotated Factors

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1							
2	-00						
3	-09	05					
4	05	14	-08				
5	02	34	03	20			
6	-05	17	-09	29	19		
7	-06	00	-13	16	03	10	
8	10	02	-16	19	00	09	05
9	16	14	-02	10	19	12	01
10	09	-02	02	-18	-07	-09	-07
11	-12	-02	11	04	05	-01	-06
12	02	03	-00	-03	00	-02	04
13	13	-10	-10	-01	00	-09	06
14	07	12	07	01	09	01	04

Table 11 (continued)

Factor Correlations for Rotated Factors

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
9	03						
10	-04	01					
11	01	-03	-06				
12	-02	10	-04	03			
13	-00	01	06	-04	02		
14	-02	04	01	01	03	-01	

TABLE 12
Sorted Rotated Factor Loadings (Pattern)

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
79	0.873	0.0	0.0	0.0	0.0	0.0	0.0
80	0.873	0.0	0.0	0.0	0.0	0.0	0.0
78	0.821	0.0	0.0	0.0	0.0	0.0	0.0
81	0.699	0.0	0.0	0.0	0.0	0.0	0.0
41	0.567	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.949	0.0	0.0	0.0	0.0	0.0
52	0.0	0.746	0.0	0.0	0.314	0.0	0.0
53	0.0	0.648	0.0	0.0	0.399	0.0	0.0
47	0.0	0.623	0.0	0.0	0.0	0.0	0.0
44	0.0	0.603	0.0	0.0	0.0	0.0	0.0
46	0.0	0.585	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.8921	0.0	0.0	0.0	0.0
38	0.0	0.0	0.823	0.0	0.0	-0.375	0.0
40	0.0	0.0	0.806	0.0	0.0	0.0	0.0
42	0.0	0.0	0.663	0.0	0.0	0.0	0.0
48	0.0	0.0	0.621	0.0	0.277	0.0	0.0
69	0.0	0.0	0.0	0.752	0.0	0.0	0.0
61	0.0	0.273	0.0	0.748	0.0	0.0	0.0
74	0.0	0.0	0.0	0.721	0.0	0.0	0.0
70	0.0	0.0	0.0	0.712	0.0	0.0	0.311
59	0.0	0.0	0.0	0.681	0.0	0.343	0.0
54	0.0	0.0	0.0	0.0	0.824	0.0	0.0
55	0.0	0.0	0.0	0.0	0.751	0.0	0.0
58	0.0	0.0	0.0	0.0	0.0	0.815	0.0
60	0.0	0.0	0.0	0.0	0.0	0.697	0.0
67	0.0	0.0	0.0	0.0	0.0	0.534	0.0

Table 12 (continued)

Sorted Rotated Factor Loadings (Pattern)

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
66	0.0	0.0	0.0	0.0	0.0	0.0	0.904
76	0.0	0.0	0.0	0.0	0.340	0.0	0.523
63	0.0	0.0	0.0	0.0	0.311	0.0	0.512
77	0.323	0.0	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.326	0.0	0.0	0.0
82	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	0.0	0.0	0.485	0.0	0.0	0.0	0.0
64	0.323	0.268	0.0	0.0	0.0	0.0	0.0
57	0.359	0.0	0.0	0.0	0.0	0.289	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71	0.0	0.0	0.0	0.0	0.0	0.383	0.0
72	0.0	0.0	0.0	0.391	0.0	0.401	0.0
73	0.0	0.0	-0.344	0.346	0.0	0.0	0.0
51	0.392	0.0	0.0	0.0	0.457	0.0	0.0
50	0.0	0.360	0.0	0.0	0.288	0.0	0.0
49	0.0	0.279	0.0	0.0	0.500	0.0	0.0
62	0.0	0.0	0.0	0.0	0.253	0.0	0.0
65	0.461	0.0	0.0	0.0	0.0	0.0	0.0
43	0.360	0.0	0.337	0.0	0.0	0.0	0.0
56	0.0	0.0	0.0	0.0	0.432	0.0	0.0
68	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 12 (continued)
Sorted Rotated Factor Loadings (Pattern)

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
79	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81	0.0	0.0	0.0	0.0	0.0	0.483	0.0
41	-0.281	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	-0.275	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.280	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.270
69	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	-0.284	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67	0.384	0.0	0.0	0.0	0.0	-0.289	0.0

Table 12 (continued)

Sorted Rotated Factor Loadings (Pattern)

Item No.	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
66	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76	0.0	0.0	-0.456	0.0	0.0	0.0	0.0
63	0.0	0.0	0.0	0.0	0.0	0.319	0.0
77	0.755	0.0	0.0	0.0	0.0	0.0	0.0
75	0.651	0.0	0.0	0.0	0.0	0.0	0.0
82	0.0	0.868	0.0	0.0	0.0	0.0	0.0
37	0.0	0.0	-0.251	0.0	0.502	0.0	0.0
64	0.0	0.0	0.0	0.0	0.0	0.633	0.0
57	0.0	0.0	0.0	-0.251	0.0	-0.577	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.760
71	0.264	0.0	0.0	0.0	-0.397	0.0	0.0
72	0.279	0.0	0.0	0.282	0.0	0.0	0.0
73	0.0	0.0	0.0	0.0	0.431	0.0	0.354
51	0.0	0.0	0.0	0.0	-0.258	0.0	0.0
50	0.0	0.325	0.0	0.0	0.0	0.0	0.0
49	0.0	0.0	0.0	-0.288	0.0	0.0	0.0
62	0.0	0.0	-0.436	0.0	0.0	0.0	-0.340
65	0.0	0.0	0.0	0.0	0.306	0.312	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.364
56	0.0	0.367	0.0	0.0	-0.323	0.0	0.0
68	0.0	0.477	0.0	0.255	0.251	0.0	0.0

NOTE: The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

APPENDIX F
Q-Technique Statistics

TABLE 13

Intercorrelation Matrix of Subjects

Subject	1	2	3	5	6	7
1	100					
2	06					
3	30	-04				
5	24	07	17			
6	19	12	46	-05		
7	05	-12	-11	48	-20	
8	17	05	19	09	24	02
10	17	24	27	14	25	27
11	-01	25	-03	-20	14	-30
12	23	39	41	-06	45	-13
13	03	54	03	-13	12	-02
14	29	-13	40	-11	30	-27
16	08	49	09	12	08	09
17	32	06	25	33	33	-20
18	25	50	35	03	34	-10
19	21	23	17	29	19	06
20	02	25	08	-04	21	-09
21	00	66	-12	-11	14	-33
22	52	-02	58	38	26	12
23	-02	49	-16	11	01	10
24	14	29	19	-01	49	13
25	-04	34	-05	-07	05	04
26	24	12	46	09	20	-04
27	22	32	22	-10	23	-29
29	14	-02	60	02	33	-14
30	47	08	44	19	45	-20

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	1	2	3	5	6	7
31	11	43	-09	-24	03	-05
33	29	13	14	-02	29	-21
39	16	22	53	03	49	-41
40	-09	12	-05	-07	17	-02
41	20	34	-13	-17	14	-19
42	-04	11	-25	-23	-10	-25
43	-00	57	03	-17	37	-37
44	19	53	44	-02	40	-23
45	04	17	-13	26	-30	53
48	29	35	31	08	34	-11
50	-13	48	-35	10	-12	06
51	47	26	62	10	51	-15
52	-11	54	-16	-20	23	-34
53	27	29	54	-16	56	-39
54	-21	-11	-05	-14	-09	-27
55	19	13	48	-06	44	-04
56	20	46	42	-07	46	-28
58	38	42	31	11	19	-10
61	07	20	-18	09	-19	16
62	03	63	-02	-17	25	-37

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	8	10	11	12	13	14
10	-02					
11	-09	07				
12	-02	13	25			
13	-07	38	29	36		
14	22	-10	-02	11	09	
16	02	20	-04	35	40	-16
17	04	-06	26	29	-03	08
18	-07	30	26	59	32	-10
19	07	17	14	40	05	-03
20	14	-01	33	33	35	05
21	-17	15	28	38	34	-12
22	11	34	12	18	02	29
23	-27	16	31	44	30	-14
24	20	26	-02	29	29	23
25	37	04	-03	07	34	05
26	-04	34	06	27	14	17
27	-03	17	35	28	32	23
29	06	09	23	50	05	14
30	-04	29	21	19	09	12
31	-33	24	14	26	55	-10
33	-05	25	39	18	08	09
39	09	15	22	37	11	22
40	21	08	00	03	11	07
41	-18	15	39	32	30	-02
42	-07	-14	29	10	11	-14

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	8	10	11	12	13	14
43	00	09	37	41	53	23
44	04	23	32	46	37	17
45	11	09	-25	-02	18	-21
48	14	19	14	34	13	26
50	-30	03	31	17	29	-40
51	12	32	34	48	17	17
52	-26	-07	35	42	52	-03
53	09	22	16	39	26	38
54	-22	-14	48	03	-01	06
55	07	34	25	39	20	23
56	13	15	38	60	32	30
58	15	14	40	53	40	18
61	-16	-14	14	07	10	-01
62	-15	10	52	55	45	-02

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	16	17	18	19	20	21
17	21					
18	53	20				
19	20	32	28			
20	06	14	15	25		
21	27	10	41	37	23	
22	04	18	27	29	-10	-07
23	21	15	32	21	16	53
24	10	08	28	15	14	27
25	43	-14	30	-03	04	09
26	36	09	43	18	-07	04
27	24	12	37	08	28	27
29	14	38	37	-06	08	-09
30	04	49	31	16	09	02
31	50	-03	43	12	17	55
33	02	39	16	11	12	16
39	36	59	48	20	10	14
40	-08	-06	-03	07	15	18
41	21	-04	43	15	09	47
42	-13	-01	-04	07	21	43
43	20	29	41	28	41	60
44	31	26	49	07	26	17
45	24	-22	-09	01	18	09
48	27	18	30	05	-01	16
50	12	08	25	18	04	52

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	16	17	18	19	20	21
51	40	49	58	23	15	14
52	28	08	29	-02	28	58
53	35	31	53	29	09	34
54	-46	12	-33	-07	09	02
55	12	26	41	19	27	-08
56	35	43	44	14	32	25
58	25	23	49	24	24	39
61	-12	-11	-16	15	27	28
62	35	23	57	36	35	71

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	22	23	24	25	26	27
23	-06					
24	15	02				
25	-09	02	09			
26	43	01	05	10		
27	16	-02	12	32	18	
29	18	09	08	-10	44	13
30	40	-10	20	-01	32	32
31	03	41	21	36	19	27
33	21	21	12	-23	32	11
39	25	10	13	05	52	24
40	-23	22	23	-10	-12	-15
41	20	27	-01	29	09	46
42	-15	17	05	-18	-10	02
43	-11	43	46	17	03	40
44	20	26	23	12	26	33
45	02	19	05	24	09	-10
48	33	15	25	02	44	25
50	-17	57	12	14	-25	03
51	46	11	21	09	58	32
52	-21	47	18	09	01	34
53	35	05	29	18	43	34
54	-07	09	-17	-49	-07	-02
55	23	-03	38	07	31	23
56	19	38	28	07	22	27
58	35	39	22	18	23	28
61	05	36	08	-23	-20	08
62	-01	49	19	24	-01	47

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	29	30	31	33	39	40
30	35					
31	-16	06				
33	35	24	-00			
39	57	42	09	46		
40	05	01	-05	07	-04	
41	-13	06	38	24	07	-24
42	-11	-25	15	31	-09	17
43	10	17	38	35	43	31
44	36	38	14	39	54	-01
45	-17	-16	33	-25	-37	04
48	39	25	-01	51	40	-17
50	-13	-09	33	09	-12	18
51	64	57	19	51	73	-06
52	17	07	46	22	16	20
53	35	42	39	28	66	03
54	12	-05	-23	29	07	13
55	43	44	08	28	49	-02
56	55	30	24	42	50	17
58	37	17	29	24	28	20
61	-23	-30	08	09	-22	14
62	11	18	46	16	25	15

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	41	42	43	44	45	48
42	32					
43	26	29				
44	18	01	45			
45	-10	-08	-21	-23		
48	24	-09	28	55	-02	
50	36	38	33	06	-05	-18
51	16	-06	24	64	-12	51
52	35	32	55	30	09	23
53	12	-03	54	49	-24	37
54	-06	38	05	-00	-26	-13
55	-11	-15	26	52	-24	21
56	12	06	47	68	-14	47
58	39	28	37	42	12	27
61	30	26	15	-11	19	03
62	55	37	67	45	-11	24

Table 13 (continued)

Intercorrelation Matrix of Subjects

Subject	50	51	52	53	54	55
51	-07					
52	40	16				
53	-12	66	25			
54	16	-06	19	-19		
55	-04	60	02	49	01	
56	09	62	46	53	02	52
58	26	53	34	37	07	12
61	32	-25	19	-34	29	-41
62	48	33	62	41	04	21

Subject	56	58	61	62
58	49			
61	-11	16		
62	49	56	13	

TABLE 14

Eigenvalues and Cumulative Proportions of Total Variance

Factor	Variance Explained (Eigenvalues)	Cumulative Proportion of Total Variance
1	10.91	0.24
2	5.87	0.37
3	3.82	0.44
4	2.67	0.50
5	2.22	0.55
6	1.98	0.59
7	1.68	0.63
8	1.57	0.66
9	1.42	0.69
10	1.29	0.72
11	1.19	0.75
12	1.11	0.77
13	1.05	0.80
14	0.94	0.82
15	0.86	0.83
16	0.76	0.85
17	0.72	0.87
18	0.65	0.88
19	0.58	0.89
20	0.54	0.91
21	0.78	0.92
22	0.46	0.93
23	0.45	0.94
24	0.44	0.95
25	0.32	0.95
26	0.31	0.96
27	0.30	0.97
28	0.25	0.97
29	0.21	0.98
30	0.20	0.98
31	0.14	0.98
32	0.13	0.99
33	0.12	0.99
34	0.10	0.99
35	0.09	0.99
36	0.09	0.99
37	0.08	1.00
38	0.06	1.00

Table 14 (continued)

Eigenvalues and Cumulative Proportions of Total Variance

Factor	Variance Explained (Eigenvalues)	Cumulative Proportion of Total Variance
39	0.04	1.00
40	0.04	1.00
41	0.03	1.00
42	0.02	1.00
43	0.01	1.00
44	0.01	1.00
45	0.00	1.00
46	0.00	1.00

NOTE: The variance explained by each factor is the eigenvalue for that factor.

TABLE 15

Unrotated Factor Loadings (Pattern) for Principal Components

Subject	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1	35	-33	19	34	-04	43	12
2	61	47	27	-03	09	-08	-03
3	47	-66	02	07	09	06	-10
5	-02	-23	38	63	11	-12	21
6	57	-32	-13	-15	28	07	19
7	-32	-04	61	44	23	-15	-14
8	03	-31	14	-17	54	25	04
10	34	-13	36	17	-01	-05	-09
11	47	25	-43	15	-10	05	-06
12	71	07	12	10	10	-08	-08
13	51	38	23	-17	12	04	-28
14	22	-37	-21	-22	26	51	-16
16	47	10	56	-16	-16	-27	-03
17	45	-25	-24	29	-01	-22	41
18	74	03	30	-06	-20	-15	14
19	36	05	15	37	14	08	52
20	35	23	-11	02	39	10	-05
21	52	63	02	03	-01	07	21
22	34	-47	21	44	-15	40	01
23	40	54	06	35	05	-29	-12
24	40	-01	15	-07	53	12	09
25	21	14	54	-50	-02	11	04
26	45	-40	21	08	-29	-04	-29
27	51	07	02	-22	-22	40	00
29	50	-44	-22	08	00	-35	-32
30	49	-43	-03	08	-10	01	28

Table 15 (continued)

Unrotated Factor Loadings (Pattern) for Principal Components

Subject	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
31	44	46	39	-18	-20	02	-02
33	48	-11	-39	32	-11	-01	-17
39	68	-39	-20	-08	-13	-22	09
40	08	20	-17	02	65	-15	01
41	41	42	07	05	-46	45	03
42	12	51	-40	16	00	17	-02
43	68	37	-20	-20	27	04	16
44	73	-13	-08	-08	02	-12	-18
45	-14	22	64	20	22	01	-34
48	54	-24	04	08	-08	13	-35
50	21	69	00	26	-05	-23	25
51	79	-43	03	14	-12	-11	-04
52	52	56	-16	-14	01	-11	-22
53	73	-27	00	-30	-03	06	17
54	-03	16	-74	31	-02	-03	-22
55	55	-40	-06	-13	14	-22	04
56	77	-08	-15	-05	19	-17	-19
58	56	15	06	26	10	19	-15
61	-04	50	-08	50	16	37	-17
62	71	51	-08	-08	-06	03	18

Table 15 (continued)

Unrotated Factor Loadings (Pattern) for Principal Components

Subject	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
1	-06	-04	03	-05	12	31
2	-10	-07	26	-06	-01	-05
3	03	07	-29	05	-18	-02
5	-21	07	16	-18	03	07
6	16	-11	07	-02	-17	-05
7	19	13	13	02	-11	-05
8	-39	06	25	39	18	-09
10	63	-01	17	17	10	-07
11	07	41	14	16	10	-02
12	-12	09	-30	04	-37	-14
13	25	21	01	-09	14	09
14	-05	-12	-13	-20	-10	16
16	-25	-08	-03	-06	14	-12
17	-29	07	06	-26	20	12
18	01	03	-08	20	-21	-02
19	-02	-01	-26	05	04	-40
20	-06	49	-13	-20	22	-35
21	02	-29	-14	00	06	-06
22	12	-01	-09	08	-09	06
23	-07	-13	-02	-06	-17	10
24	35	-20	14	-06	-15	00
25	-25	21	19	21	06	09
26	09	-20	-22	11	24	-18
27	01	33	08	-21	02	-02
29	-16	08	-15	11	-12	11
30	22	18	09	-23	15	33

Table 15 (continued)

Unrotated Factor Loadings (Pattern) for Principal Components

Subject	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
31	23	-07	-29	-14	20	13
33	10	-26	34	06	29	-12
39	-14	-14	-02	-04	15	-13
40	12	-18	-10	23	15	28
41	-01	02	15	16	-17	-05
42	00	-13	-08	36	25	-08
43	05	-15	09	-16	07	-06
44	-03	08	29	-01	-13	-05
45	-11	07	-19	-13	30	03
48	-17	-35	37	-16	-10	-18
50	09	06	17	16	-16	20
51	-06	04	02	11	14	05
52	-06	-07	-04	-25	02	16
53	07	-24	-22	01	10	02
54	13	17	-09	01	09	-01
55	34	30	05	04	-05	-14
56	-16	03	04	-04	-09	09
58	-23	10	-15	33	-01	30
61	-08	-06	-03	-23	-14	-14
62	-07	10	-03	06	-10	01

TABLE 16

Residual Correlations of Subject Matrix

Subject	1	2	3	5	6	7	8	10	11	12
1	30									
2	01	23								
3	-08	06	19							
5	-13	03	06	23						
6	-04	-08	-03	00	34					
7	01	-10	-06	-03	03	16				
8	-00	03	01	-03	03	-04	09			
10	-03	02	05	02	01	-07	04	23		
11	-07	-01	-05	-04	02	02	03	-03	23	
12	11	-03	-06	-06	05	-01	03	02	-05	19
13	-01	00	02	05	-03	-02	01	03	-02	03
14	-04	-02	-04	06	-09	04	-04	01	04	-05
16	01	-04	-01	-02	01	04	-01	02	00	01
17	-01	-08	-02	-06	03	05	01	03	01	05
18	05	-01	-02	01	-03	00	-02	00	01	-03
19	-00	01	-04	-02	-06	-01	-01	00	04	01
20	06	-04	-01	-01	05	-02	-04	-01	-05	-02
21	-03	07	05	03	03	-07	04	06	02	-02
22	-02	04	02	04	-01	-03	04	-03	06	-07
23	01	-05	-04	-03	01	00	03	07	06	-01
24	-02	-04	-03	-02	-03	03	-01	-13	03	02
25	-08	-04	02	03	02	03	-01	-03	00	01
26	-05	04	-04	06	01	-01	-02	-06	03	-01
27	-04	00	05	06	-02	02	-01	07	-05	-01
29	00	-05	-00	-02	01	02	01	02	-01	02

Table 16 (continued)

Residual Correlations of Subject Matrix

Subject	1	2	3	5	6	7	8	10	11	12
30	-02	03	01	-04	03	-05	01	-01	-01	04
31	04	-06	-01	-07	02	03	01	-05	03	-01
33	05	-09	-02	-05	02	03	-04	-03	-04	04
39	-05	01	03	02	00	01	02	02	-02	-05
40	-02	00	01	00	01	-02	-03	04	00	-03
41	-02	-09	-03	-02	11	03	-01	02	-04	05
42	05	-05	03	05	00	05	-05	-07	-12	04
43	-04	-03	01	05	-09	04	-02	-01	02	-02
44	03	06	07	-00	-07	-03	-05	-03	-06	-05
45	-03	-00	-00	-04	05	-01	02	-03	02	03
48	-01	-02	-03	-02	-02	-01	00	-01	04	01
50	-02	02	05	03	-03	00	-00	-07	-04	-03
51	02	-01	-01	01	03	02	-02	-04	01	-02
52	-03	-02	-03	06	13	00	03	-02	-02	03
53	-03	02	02	02	-03	05	00	-02	04	-06
54	-07	09	02	05	-00	-01	05	01	-01	02
55	10	01	-06	-02	-10	03	-02	-10	-03	00
56	03	00	-02	-05	-03	-01	01	02	02	-01
58	-04	00	-01	02	-03	01	-04	01	-01	-04
61	-00	01	06	-05	-01	01	01	-01	00	-06
62	-02	-00	-02	01	-03	-00	-03	04	-00	-03

Table 16 (continued)

Residual Co relations of Subject Matrix

Subject	13	14	16	17	18	19	20	21	22
13	28								
14	05	26							
16	06	03	23						
17	06	03	05	16					
18	-04	-04	-02	-02	19				
19	05	07	-01	-03	-07	18			
20	-05	-05	-04	-04	08	-10	18		
21	-06	-03	-07	-03	-01	-04	01	17	
22	03	00	02	-00	-02	-01	-03	-01	21
23	-04	11	-08	01	-03	02	02	-01	00
24	-04	-05	03	08	04	-07	-04	01	-01
25	00	09	-06	02	-05	04	-04	-02	-00
26	-00	07	-03	-03	04	04	-02	-01	-02
27	-10	-04	03	-02	02	-01	-07	03	-06
29	-00	-06	-02	02	02	-02	02	04	-06
30	-05	-11	-05	-07	01	02	04	04	-02
31	-05	-00	-00	04	-02	-03	02	-04	02
33	-02	02	00	02	02	01	04	-05	-03
39	04	03	01	02	01	-05	-02	-03	02
40	-04	-01	06	-08	06	04	02	-03	-02
41	01	00	02	04	00	-02	06	-03	-04
42	-01	-04	02	04	-01	-08	03	-03	-01
43	06	05	-04	00	04	-00	-02	-05	01
44	00	-02	-01	-06	-01	02	03	-01	01
45	-11	-06	-09	01	-01	-01	-01	06	01

Table 16 (continued)

Residual Correlations of Subject Matrix

Subject	13	14	16	17	18	19	20	21	22
48	-02	-04	-04	-02	-01	04	-01	03	-01
50	03	05	01	-00	-04	00	-01	-01	02
51	-06	-02	00	-04	-02	-02	02	02	-04
52	-01	-08	-01	-05	00	03	-01	00	03
53	00	01	-02	-03	-03	01	-01	-01	05
54	04	04	02	01	-05	03	-12	02	03
55	-06	08	-01	-01	-01	02	-02	-02	-00
56	-05	04	03	03	-05	03	01	-02	05
58	02	-00	-01	01	-00	01	01	-01	-02
61	-01	-04	06	-01	03	-04	00	-04	-01
62	-03	01	01	-02	-02	03	-02	01	01

Table 16 (continued)

Residual Correlations of Subject Matrix

Subject	23	24	25	26	27	29	30	31	33
23	26								
24	-12	30							
25	07	01	19						
26	01	03	08	22					
27	-03	00	-01	05	31				
29	-05	07	02	02	08	18			
30	-03	-00	-00	06	-02	04	21		
31	05	05	03	-07	-08	-04	-06	15	
33	02	-01	05	-05	-01	02	-04	04	17
39	04	01	06	02	00	-00	-04	01	-03
40	-00	-13	-01	07	12	-01	07	-08	-00
41	01	-02	02	-00	-04	-02	04	-01	05
42	-08	10	-04	-03	01	01	-01	02	-01
43	05	-01	04	03	03	03	-03	-02	01
44	00	-07	-05	-04	-06	-14	02	02	-05
45	00	05	01	-03	-00	01	07	01	01
48	-03	01	-03	-00	-01	04	07	-02	-04
50	-03	04	08	05	01	02	-03	02	03
51	-02	03	-01	-03	-00	-01	-02	04	00
52	-08	02	-01	01	03	03	04	-05	00
53	02	-06	-01	-06	-02	-03	-05	02	-01
54	-03	03	06	05	02	-06	-02	-01	-07
55	02	04	02	-00	-03	-04	-06	05	04
56	03	-03	-04	-06	-04	-06	-04	07	03
58	-04	04	-03	-02	-01	-02	-03	-01	-02
61	-02	02	04	02	04	04	-00	03	00
62	-02	-03	-04	-02	01	00	03	-04	-04

Table 16 (continued)

Residual Correlations of Subject Matrix

Subject	39	40	41	42	43	44	45	48	50
39	19								
40	02	27							
41	03	05	15						
42	-05	-12	-01	29					
43	05	-00	-03	-01	16				
44	-01	01	-06	07	-02	28			
45	-05	-04	02	02	-05	-02	15		
48	-08	01	-02	-01	-01	-03	05	14	
50	03	-04	-02	93	00	-03	-03	-02	16
51	-01	-01	00	01	-04	02	01	-01	-00
52	-03	-00	04	03	-07	-07	04	02	-01
53	-01	-04	-05	-01	04	04	-00	01	02
54	07	-03	-04	-05	-01	-00	01	-01	04
55	-02	-06	-03	06	-02	-01	03	01	06
56	-08	-03	01	04	-06	01	-00	-02	-01
58	02	-04	-02	-02	03	05	-01	01	-03
61	11	09	01	-06	01	-01	-07	-06	05
62	-05	04	-03	01	-02	02	03	07	-06

Table 16 (continued)

Residual Correlations of Subject Matrix

Subject	51	52	53	54	55	56	58	61	62
51	11								
52	01	22							
53	02	-01	15						
54	-01	02	01	22					
55	03	-01	01	00	21				
56	-02	-02	00	-05	05	23			
58	01	-03	02	01	-02	-04	13		
61	03	-05	-01	01	-03	-04	-02	20	
62	01	-00	-00	-01	12	-00	01	-04	15

TABLE 17

Rotated Factor Loadings (Pattern) by Subject

Subjects	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1	-05	15	-03	06	06	32	08
2	-02	08	39	24	41	-01	29
3	63	-04	-30	-10	-04	05	-06
5	-04	73	11	-09	08	39	01
6	17	-31	06	-23	19	13	04
7	-00	81	07	-03	-07	-20	01
8	-03	11	-29	-47	13	-06	71
10	-06	20	-04	14	11	-06	-02
11	13	-10	22	-13	03	14	-06
12	71	-05	21	05	04	-16	-04
13	04	01	14	47	05	-08	13
14	11	-35	-22	-06	12	-06	-05
16	16	12	-05	47	22	12	42
17	06	17	08	-05	10	82	-07
18	45	-11	27	15	02	03	27
19	01	08	-05	-07	-12	10	-04
20	04	11	-18	03	-06	14	01
21	-12	-28	30	40	14	-05	-01
22	19	18	-13	-06	04	03	-09
23	26	24	52	30	22	-05	-18
24	-08	-07	18	-05	20	-11	04
25	-04	-04	10	12	-07	-06	85
26	30	-01	-55	36	26	-01	-03
27	-06	-24	07	12	05	11	18
29	81	03	-10	-05	12	16	-08
30	-02	-06	06	07	-08	71	-05

Table 17 (continued)

Rotated Factor Loadings (Pattern) by Subject

Subjects	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
31	-07	-17	09	82	-13	00	06
33	-11	-04	-12	-07	67	21	-22
39	29	-27	-22	03	33	42	03
40	05	-04	12	06	-11	01	01
41	-08	-21	37	05	18	-25	17
42	-13	-24	03	04	06	-20	-08
43	-12	-38	25	16	31	14	04
44	32	-05	18	-10	46	13	13
45	-05	61	-25	56	-06	-16	15
48	10	04	-07	-05	89	-08	05
50	-03	12	79	06	-09	06	00
51	43	01	-14	06	24	38	14
52	11	-22	34	48	24	04	-10
53	21	-52	-18	25	10	23	14
54	11	-08	-01	-14	-02	03	-58
55	35	-09	-07	-18	-03	21	01
56	51	-08	15	04	32	18	08
58	59	08	22	15	-02	-02	24
61	-15	28	21	04	23	-35	-38
62	16	-29	47	16	04	05	16

Table 17 (continued)

Rotated Factor Loadings (Pattern) by Subject

Subjects	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
1	71	01	-11	05	06	-01
2	-10	06	17	11	-01	03
3	29	15	02	11	-17	-02
5	16	-08	-07	20	-12	-02
6	13	27	09	18	-27	18
7	-02	32	-03	01	-16	04
8	12	-11	13	06	11	36
10	04	83	-06	05	08	03
11	01	15	37	-08	57	-17
12	05	-04	20	31	-10	-05
13	05	32	40	-19	05	07
14	56	-15	16	-16	-28	15
16	-25	-05	-04	18	-11	-15
17	02	-24	08	20	02	03
18	-01	23	-12	28	00	-18
19	02	05	16	88	02	-02
20	-11	-02	90	21	08	03
21	02	-06	02	44	12	13
22	63	24	-14	19	05	-20
23	-09	-09	-03	10	06	14
24	17	42	12	14	-36	40
25	-01	02	08	-12	-01	-12
26	04	24	-18	13	16	-14
27	28	07	45	-06	01	-41
29	-05	-03	-06	-19	08	08
30	31	29	05	-09	-08	-05

Table 17 (continued)

Rotated Factor Loadings (Pattern) by Subject

Subjects	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
31	07	17	06	10	-01	-04
33	01	20	-04	00	42	08
39	-14	01	-03	19	03	-04
40	02	07	-01	-02	10	84
41	31	05	-02	15	31	-46
42	02	-08	03	20	64	23
43	-04	05	32	21	-06	26
44	-05	19	19	-13	-03	-09
45	08	-08	20	-04	-04	14
48	12	00	-06	-07	-12	-16
50	-12	09	-09	12	25	09
51	14	19	-03	06	17	-04
52	-06	-16	23	-16	02	12
53	14	15	-07	25	-12	10
54	-03	-04	26	-16	45	08
55	-15	55	28	02	-09	-01
56	01	-01	19	-09	-02	17
58	46	-09	02	05	38	20
61	29	-25	30	19	05	-03
62	01	-02	22	25	17	-05

TABLE 18

Factor Correlations for Rotated Factors

Factor	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1	100						
2	-14	100					
3	-02	-08	100				
4	09	-00	26	100			
5	33	-15	11	15	100		
6	32	-11	-07	-08	20	100	
7	11	-03	01	18	08	03	100
8	13	-02	-06	-02	19	09	06
9	23	-07	-01	09	16	18	13
10	13	-17	22	11	17	01	06
11	14	03	18	16	19	12	09
12	01	-06	19	08	09	-01	-14
13	-01	00	04	-06	04	-06	-04

Table 18 (continued)

Factor Correlations for Rotated Factors

Factor	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
8	100					
9	13	100				
10	10	04	100			
11	14	10	08	100		
12	-02	-07	09	06	100	
13	-03	-04	14	04	-02	100

TABLE 19
Sorted Rotated Factor Loadings (Pattern)

Subjects	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
29	0.808	0.0	0.0	0.0	0.0	0.0	0.0
12	0.708	0.0	0.0	0.0	0.0	0.0	0.0
3	0.623	0.0	-0.298	0.0	0.0	0.0	0.0
56	0.506	0.0	0.0	0.0	0.319	0.0	0.0
7	0.0	0.805	0.0	0.0	0.0	0.0	0.0
5	0.0	0.734	0.0	0.0	0.0	0.394	0.0
45	0.0	0.609	-0.252	0.561	0.0	0.0	0.0
53	0.0	-0.519	9.0	0.252	0.0	0.0	0.0
50	0.0	0.0	0.790	0.0	0.0	0.0	0.0
26	0.298	0.0	-0.545	0.358	0.258	0.0	0.0
23	0.264	0.0	0.520	0.303	0.0	0.0	0.0
31	0.0	0.0	0.0	0.817	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.894	0.0	0.0
33	0.0	0.0	0.0	0.0	0.668	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.824	0.0
30	0.0	0.0	0.0	0.0	0.0	0.709	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.846
8	0.0	0.0	-0.291	-0.470	0.0	0.0	0.711
54	0.0	0.0	0.0	0.0	0.0	0.0	-0.575
1	0.0	0.0	0.0	0.0	0.0	0.315	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	-0.353	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	0.347	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 19 (continued)

Sorted Rotated Factor Loadings (Pattern)

Subjects	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.294	-0.269	0.0	0.0	0.332	0.423	0.0
41	0.0	0.0	0.369	0.0	0.0	-0.251	0.0
13	0.0	0.0	0.0	0.465	0.0	0.0	0.0
43	0.0	-0.382	0.0	0.0	0.306	0.0	0.0
44	0.323	0.0	0.0	0.0	0.464	0.0	0.0
21	0.0	-0.280	0.301	0.399	0.0	0.0	0.0
16	0.0	0.0	0.0	0.467	0.0	0.0	0.417
18	0.448	0.0	0.272	0.0	0.0	0.0	0.274
51	0.426	0.0	0.0	0.0	0.0	0.381	0.0
52	0.0	0.0	0.337	0.475	0.0	0.0	0.0
2	0.0	0.0	0.392	0.0	0.408	0.0	0.292
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	-0.308	0.0	0.0	0.0	0.0	0.0
58	0.490	0.0	0.0	0.0	0.0	0.0	0.0
61	0.0	0.280	0.0	0.0	0.0	-0.247	-0.375
62	0.0	-0.289	0.471	0.0	0.0	0.0	0.0

Table 19 (continued)
Sorted Rotated Factor Loadings (Pattern)

Subjects	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
29	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.311	0.0	0.0
3	0.292	0.0	0.0	0.0	0.0	0.0
56	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.318	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0
53	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.421	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0
30	0.314	0.294	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.361
54	0.0	0.0	0.256	0.0	0.452	0.0
1	0.709	0.0	0.0	0.0	0.0	0.0
22	0.631	0.0	0.0	0.0	0.0	0.0
14	0.563	0.0	0.0	0.0	-0.282	0.0
10	0.0	0.833	0.0	0.0	0.0	0.0
55	0.0	0.554	0.279	0.0	0.0	0.0
20	0.0	0.0	0.898	0.0	0.0	0.0
19	0.0	0.0	0.0	0.883	0.0	0.0

Table 19 (continued)

Sorted Rotated Factor Loadings (Pattern)

Subjects	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
42	0.0	0.0	0.0	0.0	0.637	0.0
11	0.0	0.0	0.373	0.0	0.567	0.0
40	0.0	0.0	0.0	0.0	0.0	0.839
39	0.0	0.0	0.0	0.0	0.0	0.0
41	0.312	0.0	0.0	0.0	0.309	-0.458
13	0.0	0.320	0.403	0.0	0.0	0.0
43	0.0	0.0	0.319	0.0	0.0	0.255
44	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.443	0.0	0.0
16	-0.251	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.279	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.419	0.0	0.0	-0.357	0.401
27	0.282	0.0	0.448	0.0	0.0	-0.414
6	0.0	0.269	0.0	0.0	-0.266	0.0
58	0.458	0.0	0.0	0.0	0.384	0.0
61	0.289	0.0	0.297	0.0	0.0	0.0
62	0.0	0.0	0.0	0.0	0.0	0.0