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ABSTRACT

To validate a task list for the occupation of electroencephalograph (EEG) technician, which was derived by project staff members and reviewed and amended by the EEG National Technical Advisory Committee, 109 questionnaires were distributed to four different samples. A 60 percent response revealed: (1) The task list was highly representative of those tasks which are currently being performed by EEG technicians, (2) The technician does not receive a high degree of supervision in the performance of his job, (3) Few of the tasks were perceived as being difficult to perform, and (4) Advisory committee members perceived that each task was done more frequently, required a greater degree of supervision, and was more difficult to perform than did the other samples. On the basis of survey data, it was concluded that training programs should contain educational content relevant to each task on the list. Additional background information is available in ED 037 570 and other allied health professions projects are VT 011 425-VT 011 432 in this issue. (SB)

Interim Report

A STUDY OF THE OCCUPATION OF ELECTROENCEPHALOGRAPHIC TECHNICIAN

Thomas E. Freeland

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UNIVERSITY OF CALIFORNIA, LOS ANGELES
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FOREWORD

The Division of Vocational Education, University of California, is an administrative unit of the University concerned with responsibilities for research, teacher education, and public service in the broad area of vocational and technical education. During 1968 the Division entered into an agreement with the U.S. Office of Education to prepare curricula and instructional materials for a variety allied health areas. For the most part such materials are related to pre-service and in-service instruction in programs from on-the-job instruction through Associate degree programs.

This interim report is a summary of the task analysis for the emerging occupational area of Electroencephalography (EEG) Technician. A National Technical Advisory Committee for the Electroencephalographic Technician Occupation provided assistance in designing a questionnaire to identify tasks performed by or appropriate to Electroencephalography Technicians in health care facilities throughout the nation.

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SUMMARY

The purpose of this study is to validate the task list for the occupation, Electroencephalography Technician. The task list was derived by staff members of the Allied Health Professions Project and was later reviewed and amended by the National Technical Advisory Committee for EEG Technicians training program. It was thought that information pertaining to the performance of specific tasks would aid in the development of a quality training program for EEG Technicians.

A task analysis questionnaire was prepared, based on the information contained in the task list and on a review of various methods of task analysis. One hundred ninety-nine questionnaires were distributed nationally to four different samples (unequal n). Approximately 60 percent of the questionnaires were returned.

The survey results suggest that: (1) The task list was highly representative of those tasks which are currently being performed by EEG Technicians; (2) The Technician does not receive a high degree of supervision in the performance of his job; (3) Few of the tasks being performed by Technicians were preceived as being difficult to perform; (4) The NTAC members preceived that each task was done more frequently, required a greater degree of supervision, and was more difficult to perform than did the other samples.

On the basis of the survey data it was concluded that EEG Technician training programs should contain educational content relevant to each of the tasks listed in the task list.

INTERIM REPORT

I. INTRODUCTION

Early in 1968, the Division of Vocational Education of the University of California, Los Angeles, received funding from the United States Office of Education for a research and demonstration project for the development of curricula and instructional materials in the allied health occupations, for use in pre-service and in-service instruction through the Associate degree level. The major objectives of the Allied Health Professions Projects (AHPP) were: (1) to develop curricula and instructional materials for clusters of allied health occupations; (2) to develop innovative instructional programs for pre-service and in-service training appropriate to the occupations selected; (3) to establish a curriculum center for the allied health professions; and (4) to provide for on-going evaluation and upgrading of those programs which were to be developed.

The initial goal of the project was to develop instructional materials for approximately 18 selected occupations. Since the time when the scope of the project originally was defined, however, various technical experts and medical care authorities have suggested that the project's field of interest be enlarged. Appendix A provides a listing of those allied health occupations which are currently being studied, as well as those being considered for study.

The project staff will have utilized the following procedures in developing instructional materials: (1) identification and listing of all possible tasks within the prescribed functional area; (2) verification of those tasks appropriate to the occupational area; (3) determination of skills and knowledges essential for the satisfactory performance of each task; (4) development of behavioral objectives for each task; (5) development of appropriate curricula; (6) development of instructional materials; (7) testing and evaluation of the instructional materials which have been developed; and (8) production and distribution of materials.

At the suggestion of John E. Affeldt, M.D., Medical Director, Los Angeles County Department of Hospitals, the Electroencephalographic Technician's occupation was included in the study. A great need for competent Technicians has been noted. The increase in the number of active Technicians, and in the number of potential jobs, may be related to an increase in the reliability of recorders and to advances in recording techniques. The electroencephalographic recording, popularly known as the "brain wave," has developed from a demonstration and research procedure to a valuable diagnostic tool.

It is the purpose of this report to review the results of a nationwide survey of the job activities of EEG (Electroencephalographic) Technicians. The intention of this survey was to verify those tasks which are appropriate to the occupational area.

II. METHODS

The first phase of the study required the development of a comprehensive task inventory. This inventory was to include all tasks that might be performed by an EEG Technician. The following steps were used in developing the task inventory: (1) A nationwide survey of job descriptions was completed; (2) A review was undertaken of related literature; (3) Local laboratory facilities were visited; (4) Interviews were conducted with local EEG Technicians; (5) Experts in the occupational area were consulted.

While the task inventory was being constructed, a search was conducted for the purpose of identifying persons interested in improving educational and training programs for EEG Technicians. Terrence D. Capistrant, M.D., a member of the National Center for Chronic Disease Control, National Institutes of Health, informed the project of a number of persons who were currently conducting EEG Technician training programs. Conferences with Richard Walter, M.D., University of California, Los Angeles, and with John R. Knott, Ph.D., University of Iowa, resulted in the selection of members for the National Technical Advisory Committee (NTAC) for the EEG Technician training program, representing a cross-section of the field: practitioners, association spokesmen, educators, and supervisors of EEG Technicians. A complete listing of the Advisory Committee members appears in Appendix B.

The first series of meetings with the National Technical Advisory Committee for EEG Technician training programs was held July 6-9, 1969. The purpose of these meetings was to review and amend the task inventory, and to discuss the development of curricula and instructional materials for Technician training programs. On the recommendation of the NTAC, a mail survey of the members of the American Electroencephalographic Society (AES) and of subscribers to the American Journal of EEG Technology was authorized in order to supplement the data from the nationwide survey of hospital personnel which was to be conducted by the Projects. Additional discussion on this point is provided on the following page. For those readers desiring information about this first series of meetings, a proceedings report is available from the Allied Health Professions Projects.

The survey format developed by project staff and consultants consisted of a series of questions related to the performance of each task listed in the task inventory. The questions were: (1) How often do you do this task? (2) How much supervision do you receive when doing this task? (3) How difficult is this task to perform? The reader is referred to Appendix C for a review of the scales which were developed as an aid in quantifying respondents' answers. Additional questions, relating to the difficulty of teaching, criticality, and essential knowledges, were directed to members of the NTAC. In addition to response to performance questions,

appropriate background information also was obtained from survey respondents. A complete sample of the survey instrument, along with the instructions for completing the form, appears in Appendix C.

Sample

As previously stated, several different groups were requested to respond to the survey questionnaire. There were three primary reasons for surveying additional sources of information: (1) A very limited number of EEG Technicians was employed at the hospitals comprising the national sample (of the 48 institutions surveyed, fewer than 20 proved to have EEG Technicians on their staffs); (2) Compared with other allied health occupations, there is an extremely limited total number of workers currently employed as EEG Technicians; and (3) It was suggested that an interesting comparison might be made between the responses of EEG Technicians and those of a group of electroencephalographers.

In developing the survey sample, the project staff sought to tap the knowledge of all types of individuals involved in obtaining EEG recordings. These are: (1) the electroencephalographer, an M.D. or Ph.D. highly trained in neurophysiology; (2) the R.EEG.T., a Technician who has attained registration on the basis of National Board examination; and (3) the non-registered EEG Technician.

The survey samples, therefore, consisted of: (1) numbers of the National Technical Advisory Committee for the EEG Technician training program; (2) a group of members of the American Electroencephalographic Society (this sample was drawn at random, from a complete listing of the membership rolls); (3) a sample of subscribers to the American Journal of EEG Technology (as in the previous case, the sample was drawn at random from a complete listing of Journal subscribers); and (4) a group of EEG Technicians who were employed in hospitals and Extended Care Facilities which had been selected as a national survey sample for the Allied Health Professions Projects. A complete listing of those hospitals and Extended Care Facilities appears in Appendix D. The group of facilities selected for the national sample consisted of a "best judgment" sample--facilities which appeared to represent the various patterns of medical care found in the United States.

Percentage of Response

Table 1 depicts the number and percentage of respondents from each sample and for all samples combined. The total of usable responses numbered 118. The gross difference between the number of respondents and the number of questionnaires tabulated may be attributed to several factors: (1) retirement or inactivity in the profession: (2) receipt of the survey form after the cutoff date; and (3) not wishing to participate in the survey (there was only respondent in this category). It should be pointed out that a relatively large number (22%) of the survey forms addressed to the AES sample was not delivered because of inadequate or incorrect mailing

addresses. On the other hand, the 100% response rate of the national sample may be attributed to the procedures followed. Each hospital or Extended Care Facility received an on-site orientation visit by a member of the Allied Health Professions Projects' full-time staff, who was accompanied by a local representative of the Projects. The major purpose of the site visit was to foster the cooperation of the hospital and Extended Care Facility administrators and to review the necessary interaction between the Projects, the facility, and the local representative. The role of the local representative was to facilitate gathering of data for initial surveys.

All survey questionnaires were returned directly to the Survey Research Center of the University of California, Los Angeles, for coding and electronic data processing. The last two pages of the EEG survey were constructed in an open-end fashion; these were removed for hand tabulation.

TABLE 1

Number and Percentage of Respondents in Each Sample and for All Samples Combined

Sample	Questionnaires Distributed	Number of Respondents	Percentage of Respondents	Percentage of Questionnaires Tabulated	Number of Questionnaires Tabulated
NTAC	9	6	66.6	100.0	6
AES	64	30	46.9	80.0	24
Journal	106	76	71.6	89.4	68
National	20	20	100.0	100.0	20
TOTAL	199	132	66.3	89.3	118

III. RESULTS AND DISCUSSION

The results of the survey and discussion were reported in two sections: a review of the data which were obtained on selected background and demographic variables, and a summary of the data derived from the task inventory.

Background Data

Table 2 presents a summary of information which was obtained on selected background variables. Please note that the table presents information derived from the EEG Journal survey, the national survey, and a combination of non-registered Technicians and Registered EEG Technicians (R.EEG.T.) Background information was not requested from the NTAC nor AES samples.

Several interesting observations appear to be justified by these data. First, the proportion of Registered and Certified Laboratory Technicians in the Journal sample is over twice that found in the national sample. One may infer from this that the Journal subscribers may be composed of Technicians with higher professional interest and commitment. One should be extremely careful, of course, in extending the outcome of a survey beyond the scope of the sample; this is particularly important when dealing with a small number of respondents, as in this case. Second, the parameters for age, length of service, sex, prior experience, and formal education are very similar to the model suggested by the National Technical Advisory Committee and other authorities in the field. According to expert opinion, the Technician is: (1) usually female; (2) usually a person with some college experience; and (3) with length of service of between 3 and 5 years. One may surmise that a majority of women Technicians belong to one of two sub-groups; they either are relative newcomers to the work force seeking employment until marriage, or they are returning to the manpower pool after their children are of school age. Third, as expected, the majority of Technicians (two-thirds) received their occupational training on the job. Of the remaining third, most were products of certification or diploma programs. Fourth, and finally, several points in relation to salary range are of interest: (a) the number of Technicians (8) making over $10,000 per annum, while small, was somewhat surprising; (b) The correlations between salary and type of training and salary and length of time employed in the present position were of interest. The correlation between salary level and type of training was 0.95 for R.EEG.T.'s and 0.99 for non-registered Technicians. When salary level and length of time in position were considered the correlation was 0.43 for the R.EEG.T. and -0.43 for the non-registered Technician.[1] These correlations suggest that the time spent in organizing technical proficiency and knowledge is time well spent. (See Table 2, on the following page.)

Task Inventory Results

To present the survey results in a more definitive manner, a listing of the survey tasks has been arbitrarily divided into four sub-groups.

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[1] Correlation computed via Spearman rho formula.

TABLE 2

Comparison of Technician Samples and Technicians and R.EEG.T. on Selected Background Variables

Selected Variables	Categories	Journal N=68	National N=20	Technicians N=67	R.EEG.T. N=21
Certification	None	43	17	60	0
	R.EEG.T.	19	2	0	21
	Cert. Lab. Tech.	6	1	76	0
Position Title	EEG. Tech.	52	19	54	17
	Lab. Tech.	16	1	13	4
Length of Service (years)	Mean	8	3	7	6
	Mode[1]	4	1	4	(3) (8)
	S.D.[2]	5.6	2.2	5.5	5.0
Age (years)	Mean	43	32	41	37
	Mode[3]	49	27	49	36[3]
	S.D.[2]	9.7	9.5	10.5	7.1
Sex	Male	20	0	14	6
	Female	48	20	53	15
Prior Experience	None	8	7	15	0
	Related	33	8	30	11
	Unrelated	27	5	22	10
Formal Education	N.A.[4]	1	0	1	0
	11th Grade	1	0	0	1
	12th Grade	27	9	29	7
	Some college	33	11	33	11
	B. A.	6	0	4	2
Occupational Training	None	3	0	3	0
	O.J.T.[5]	44	14	46	12
	Cert./Dip.	18	6	15	9
	B. A.	3	0	3	0
Salary Range	N. A.	3	0	3	0
	$2,000-3,999[6]	2	1	3	0
	$4,000-6,999	26	18	38	6
	$7,000-9,999	29	1	18	12
	over $10,000	8	0	5	3

1 Bimodal
2 Standard deviation
3 First mode value to left of the mean
4 No answer
5 On-the-job training
6 It is assumed, although not established, that this group includes part-time workers.

These groupings were formed for convenience in reporting the data; they are not a classification system. The identifying numbers are those used in the survey instrument (see Appendix C).

A. Interpersonal Relations

1. Receive consultation form
4. Schedule appointment with appropriate personnel
5. Arrange transportation of patient to EEG laboratory
6. Record name
7. Record referring service
10. Enter age
11. Enter sex
12. Enter laterality (handedness)
13. Enter current medication (if any)
15. Pathological conditions (if any)
16. Physical impairments (if any)
17. Enter post-absorbtive state
18. Take patient to examining room
19. Place patient in the chair or on bed (use precautionary measures as needed)
20. Explain test procedures to patient
69. Attach identifications and completed data sheet to record
70. Detach patient from recorder
73. Return patient to floor care
74. Notify physician that EEG record has been completed
75. When necessary, transport record to encephalographer
76. Discuss recording conditions with encephalographer when requested

B. Clinical EGG

2. Review consultation form
3. Synthesize pertinent information
8. Review tentative diagnosis
9. Review previous EEG records and reports
14. Enter behavioral state of patient
21. Measure skull in order to determine placement of electrodes
22. Insert needle electrodes
23. Apply disc electrodes
24. Use of collodion
25. Use of paste
26. Other
27. Recheck symmetry of electrodes
28. Plug electrodes into console (junction box)
30. Dim or turn off lights
31. Restrict extraneous noise or disturbances
32. Turn on machine (pre-amplifier-amplifier-recorder)
33. Warm up if necessary (occurs prior to attaching electrodes)
41. Choose instrument settings
42. Choose first montage
43. Label montages on record in progress
44. Observe and evaluate record in progress

45. Observe patient throughout procedures
46. Follow prescribed routines
47. Select most appropriate montages
48. Select appropriate activation procedures
49. Annotate changes due to artifact
50. Eliminate-reduce artifact if possible
51. Use activation procedures if possible or necessary
52. Hyper-ventilation
53. Photic stimulation
54. Pain
55. Natural sleep
56. Sedated sleep
57. Sleep deprivation
58. Drowsiness
59. Stages of sleep
60. Focal abnormalities
61. Generalized abnormalities
62. Artifacts
63. Coma recordings
64. Intensive care recordings
65. Infectious disease/isolation techniques
67. Review completed record
68. Make descriptive classification
69. Attach identifications and completed data sheet to record
70. Detach patient from recorder
71. Clean electrodes
72. Sterilize electrodes

C. Instrumentation

32. Turn on machine (pre-amplifier-amplifier-recorder)
34. Check paper supply
35. Check ink flow
36. Check and select high filters
37. Check and select low filters
38. Select speed of paper drive
39. Perform internal calibration
40. Perform external calibration (signal from patient)
66. Perform terminal calibration
78. Fill ink reservoir as needed
79. Check for breaks in electrode cables
80. Change stylus as necessary
81. Adjust stylus pressure when necessary
82. Adjust ink flow when necessary
83. Change galvanometer when necessary
84. Check replace tubes when necessary
85. Replace pre-amplifier/amplifier when necessary
86. Refill paper supply as needed
87. Sharpen needles as required
88. Check continuity of electrodes as required
89. Calibrate paper drive when necessary
90. Check batteries (if applicable)

91. Perform external calibration with signal generator
92. Use oscilloscope to monitor signal generator
93. Clean outer surface of machine
94. Clean inkwells of machine
95. Clean air filters on power supply
96. Clean electrical contacts
97. Clean inside console
98. Clean electrical board and cables

D. Miscellaneous Functions

77. Maintain and use appropriate filing, storage and retrieval systems
99. Recording supplies
100. Cleaning supplies
101. Maintenance supplies
102. Clerical supplies

After reviewing the initial data output for all samples, it was evident that there was a high degree of similarity among the responses. This high level of similarity resulted in consensual validation for the majority of tasks. Appendix E lists the number of respondents (n) for each task, the percentage of respondents in a composite category, and the mean category response for each of the four samples and for the total sample.

Those tasks which did not have consensual validation, as evidenced by a difference in the modes of the Journal, national, and AES (electroencephalographers') samples, are reviewed in the following tables. Table 3 compares the response of the Journal sample, national sample, non-registered Technicians, and Registered Technicians for those tasks which are part of Group A. The gross difference in the mode value of the frequency of performance of this particular task may be attributed to a higher level of professional interest and values on the part of the Registered Technician. This conclusion is warranted and gains credence when one considers the similarity between the response of the national sample and the non-registered Technician on the one hand, and the Journal sample and the Registered Technician on the other.

TABLE 3

Differences in Mode Scores of the National Sample, Journal Sample, Registered Technicians, and Non-Registered Technicians on Selected Tasks Involving Interpersonal Relations in Which Differences Occurred (Group A)

			Mode Scores by Sample			
	Task	Dimension	National/	Journal/	Non-Reg./	R.EEG.T.
74.	Notify physician of completed record	Frequency	5.0	1.0	5.0	1.0

TABLE 4

Differences in Mode Scores of Registered EEG Technicians, Non-Registered Technicians, and Electroencephalographers on Those Tasks Involving Interpersonal Relations in Which Differences Occurred (Group A)

	Task	Dimension	Mode Scores by Sample R.EEG.T.	Non-Reg.	AES
5.	Arrange transportation to laboratory	Frequency	1	1	5
74.	Notify physician of completed record	Frequency	1	1	1-5

The differences in response between the Registered Technician, the non-registered Technician and the American Electroencephalographic Society samples for selected tasks in Group A are reviewed in Table 4. Data in Table 4 do not require a detailed explanation. Several conclusions are suggested. (1) Electroencephalographers may not be aware of all duties performed by Technicians, as in Task #5. (2) The mode responses for Task #74 suggest an interesting hypothesis: Registered Technicians apparently were subordinates of that portion of the sample of encephalographers whose response was "daily". Correspondingly, non-registered Technicians may have worked for those encephalographers who answered "never" in response to the frequency question. In any event, it is evident that encephalographers may have different levels of expectation and may quite possibly establish a variety of limits for the Technicians whom they supervise.

The tasks in Table 5 originated from the listing of tasks that make up Group B (clinical EEG tasks). The data in Table 5 suggest the following conclusions: (1) The selection and use of appropriate activation procedures are perceived by the Registered Technician as being more difficult tasks than do the non-registered Technicians; (2) The Journal sample reported that the use of pain stimuli as an activation procedure requires a higher degree of supervision than that reported by the national sample; (3) As might be expected, the Registered Technician, who in all probability is more often employed in a large hospital or in a research facility, reported that coma recordings were being done at a greater frequency than did the other respondents; and (4) The Journal sample reported a higher level of supervision required for intensive care recording and for reviewing the completed record than did the national sample.

TABLE 5

Differences in Mode Scores of the National Sample, Journal Sample, Registered Technicians and Non-Registered Technicians on those Tasks Categorized as Clinical EEG Tasks in which Differences were found
(Group B)

Task	Dimension	Mode Scores by Sample National/Journal/Non-Reg./R.EEG.T			
3. Synthesize pertinent information	Difficulty	1	2	1.0	1.0
47. Select appropriate montage	Difficulty	1-3	1-2	1	2
48. Select activation procedures	Difficulty	1	1	1	4
51. Use activation procedures required	Difficulty	1	1	1	3
52. Hyperventilation	Difficulty	1	1	1	2
53. Photic stimulation	Difficulty	1	1	1	2
54. Pain stimulation	Supervision	3	5	5	5
	Difficulty	1	1	3	2
63. Coma readings	Frequency	3.0	4.0	4.0	2.0
	Supervision	4-5	4	5	5
64. Intensive care recording	Supervision	2	5	5	5
65. Infectious disease isolation techniques	Frequency	5	5	5	4
67. Review completed record	Supervision	3	5	5	5
68. Make descriptive classification	Supervision	3-5	5	5	5

The tasks listed in Table 6 are a part of those tasks contained in Group B. It is interesting to note that the AES sample agrees with the non-registered Technician in regard to the difficulty of selecting

appropriate activation procedures. While differences do exist among the mode categories of response, the differences appear to be trivial. With rare exceptions, the data are amazingly similar.

TABLE 6

Differences in Mode Scores of Registered EEG Technicians, Non-Registered Technicians, and Electroencephalographers on those Tasks Categorized as Clinical EEG Tasks, in which Differences were Found
(Group B)

Task	Dimension	Mode Scores by Sample R.EEG.T./Non-Reg./AES		
3. Synthesize information on consult	Difficulty	1	1	2-3
8. Review diagnosis	Supervision	5	5	3-5
9. Review records and reports	Supervision	5	5	3-5
47. Select most appropriate montage	Difficulty	2	1	1-3
48. Select activation procedures	Difficulty	4	1	1
50. Eliminate-reduce artifact	Supervision	5	5	3-5
	Difficulty	3	1	3
51. Use Activation procedures	Difficulty	2	1	1
52. Use hyperventilation	Difficulty	2	1	1
53. Use photic stimulation	Difficulty	2	3	3
56. Sedated sleep	Difficulty	1	1	3
63. Coma readings	Frequency	2	4	2-5
	Supervision	5	5	3
	Difficulty	3	3	3-4
64. Intensive care recording	Supervision	5	5	3
	Difficulty	3	3	3-4
65. Infectious disease/ isolation technique	Frequency	4	5	4
	Supervision	5	5	4
72. Sterilize electrodes	Frequency	1	1	1-5

TABLE 7

Differences in Mode Scores of the National Sample, Journal Sample, Registered Technicians, and Non-Registered Technicians on those Tasks Related to Knowledge of Equipment Function in which Differences were Found
(Group C)

Task	Dimension	Mode Scores by Sample National/Journal/Non-Reg./R.EEG.T			
8. Adjust stylus pressure	Frequency	3	4	4	4
84. Check, replace tubes	Frequency	5	4	4	4
85. Replace amplifier-pre-amplifier	Frequency	5	5	4	5
	Difficulty	1-2	1	1	1
88. Check continuity of electrodes	Frequency	1	1	1	2
89. Calibrate paper drive	Frequency	1	1	1	5
90. Check batteries	Frequency	4	5	5	5
91. Calibrate with signal generator	Frequency	1	5	5	5
93. Clean outer surface of machine	Frequency	2	3	1	3
94. Clean inkwells	Frequency	3-4	3	3	3
96. Clean electrical contacts	Frequency	5	4	5	4
97. Clean inside of console	Frequency	5	4	4	4
98. Clean electrical boards and cables	Frequency	3	3-4	3	4

The tasks presented in Table 7 are part of those tasks included in Group C--tasks which relate to instrumentation. Two tasks within Table 7 are of specific interest--Tasks #89 and 91. There is no obvious explanation which would elucidate the extreme polarity of mode scores for either #89 or #91.

It is interesting to note that in Task #89 the Registered Technician is at one extreme, while for Task #91, it is the national sample that is at the extreme. It is possible that these tasks may never be done, and it is equally possible that they may be done once per day or more; however, it is highly improbable that either condition really exists. An educated guess would be that these particular tasks are being performed in a range of once a month to several times a year. A check of the mean scores reported in Appendix E reveals that in three of the four samples, the mean level of performance reported ranged from once a month to several times a year.

As in Table 7, the tasks in Table 8 are a part of those listed in Group C--instrumentation tasks. Four tasks in Table 8 warrant discussion. For Task #89, the AES sample and the Registered Technician sample are in agreement, while the non-registered Technician group is at the other extreme. This task was discussed above, in the summary of Table 7. It is believed that the previous statements also are applicable here. The AES sample perceives Task #92 as much more difficult to perform than do the Technician samples. The reason for this great difference is not known and in this particular case it is relatively unimportant, since the task is seldom performed. For Tasks #93 and #98, the mode selection for the AES sample was daily performance; the Technicians' mode implied that they did not perform these particular housekeeping chores as often as their encephalographers would like. It should be noted that the mode reply for the non-registered Technicians for Task #93 was in agreement with the response of the AES sample.

TABLE 8

Differences in Mode Scores of Registered EEG Technicians, Non-Registered Technicians, and Electroencephalographers on those Tasks Related to Equipment Function in which Differences were Found
(Group C)

Task	Dimension	Mode Scores by Sample R.EEG.T./Non-Reg./AES		
85. Replace amplifier/pre-amplifier	Frequency	4	5	5
88. Check continuity of electrodes	Frequency	2	1	1
89. Calibrate paper drive	Frequency	5	1	5
92. Use Oscilloscope to monitor generator	Supervision	5	5	2-5
93. Clean outer surface of machine	Frequency	3	1	1
95. Clean air filters on power supply	Frequency	3	3	4
96. Clean electrical contacts	Frequency	4	5	4
98. Clean electrical board and cables	Frequency	4	3	1

The information contained in Tables 9 and 10 relates to the group of tasks contained in Group D--Miscellaneous Functions. The information in these tables is of sufficient homogeneity or agreement to render discussion unnecessary.

TABLE 9

Differences in Mode Scores of the National Sample, Journal Sample, Registered Technicians and Non-Registered Technicians on those Miscellaneous Tasks in which Differences Occurred (Group D)

Task	Dimension	Mode Scores by Sample National/Journal/Non-Reg./R.EEG.T			
99. Ordering recording supplies	Frequency	3	4	4	3
100. Ordering cleaning supplies	Frequency	3	4	4	3
101. Ordering maintenance supplies	Frequency	3-4	4	4	4
102. Ordering clerical supplies	Frequency	3	3-4	3	3

TABLE 10

Differences in Mode Scores of Registered EEG Technicians, Non-Registered Technicians and Electroencephalographers on those Miscellaneous Tasks in which Differences Occurred (Group D)

Task	Dimension	Mode Scores by Sample R.EEG.T./Non-Reg./AES		
99. Order recording supplies	Frequency	3	4	3
100. Order cleaning supplies	Frequency	3	4	3
101. Order maintenance supplies	Frequency	4	4	3-4
102. Order clerical supplies	Frequency	3	3	3-4

Tables 3 through 10 contain the mode categories of response for 37 different tasks. Of these 37 tasks, there was sufficient difference to warrant discussion of 15; this is brought to the reader's attention in order to reinforce an earlier statement pertaining to the consensual validation of a majority of tasks by all respondents. That is to say, that a majority of respondents answered the three questions about each task in a very similar manner. If one examines the mean category of response, Appendix E, a similar pattern is observed.

As previously stated, the last two pages of the EEG survey form were constructed in an open-end format. Table 11 reviews the responses to the questions on Pages 9 and 10 of the survey (Appendix C), and Appendix F presents a detailed listing of all information obtained in response to those questions.

TABLE 11

Numerical Summary of Response to Questions Concerning Research and Training Activities and Membership.

	National Sample		EEG Journal Sample	
	Yes	No	Yes	No
"List any research projects in which you are involved."	4	16	12	56
"List education or training projects."	8	12	32	36
"Memberships in professional societies."	11	9	52	16

A listing of those tasks which were added to the survey form by various respondents who utilized the spaces provided for this purpose appears below. The respondents added 27 different tasks. A comparison between the survey form and the list shows that 11 of the 27 suggested tasks duplicated items contained in the survey form itself. The fact that there were only 16 distinct additions to the task list by a group of respondents numbering 118 would tend to validate the original task list. Undoubtedly, the tasks in the survey format are representative of those now being performed by various levels of EEG Technicians. Furthermore, the tasks listed in the survey instrument would appear to be a relatively complete compilation of those tasks which electroencephalographers assign to their Technicians.

Following is a listing of tasks which were written into the body of the survey form:

1. Typing reports
2. Call reports to referring doctor's office
3. Take records to doctor's office
4. Repair disc electrodes
5. Make new disc electrodes
6. Transport EEG machine to patient
7. Clean area
8. Dictate EEG schedule routine
9. Scientific (serial studies)
10. Check tube in amplifier
11. Remove and check tube in power package
12. Check resistance, all applied electrodes
13. Arrange for billing
14. Give instructions (patient and/or nursing)
15. Clean scalp
16. Correspondence relative to appointments
17. Check/adjust baseline
18. Check/align pen
19. Initiate consultation-report form
20. Personal transport, patient to laboratory
21. EMG monitor
22. Drowsiness (and control)
23. Electrocarticography (mapping bioelectrical activity)
24. Perform test in patient's room with portable equipment
25. Ground patient
26. Select records to be microfilmed
27. File and store microfilm

IV. SUMMARY AND CONCLUSIONS

It was the purpose of this report to review the results of a nation-wide survey, which was conducted in order to ascertain the specific tasks which comprise the Electroencephalographic Technician's (EEG) occupation. It is believed that a knowledge of these particular tasks will aid in the development of a revelant and meaningful educational training program for the EEG Technician.

The opinions of four different populations were sampled: (1) members of the National Technical Advisory Committee for EEG Technician training programs; (2) subscribers to the American Journal of EEG Technology; (3) members of the American Electroencephalographic Society (AES); and (4) a national sample of Technicians working in selected hospitals and Extended Care Facilities.

One hundred ninety-nine questionnaires were distributed; 59.3 percent of the questionnaires returned (118) were tabulated by the Survey Research Center, University of California, Los Angeles. The data collected on selected background variables confirmed the opinion of authorities in the field. It should be noted that the ages of the persons in the samples indicated by the mean and the standard deviation were somewhat higher than anticipated. Also, 10 percent of the Technicians reported that they were earning $10,000 or more.

The differences in the mode category selected were reported for each sample, and also for a combination of R.EEG.T.'s and non-registered Technicians. Fewer than one-third of the tasks contained in the task inventory had a difference in the mode value selected by any of the four samples. Of those tasks reported in Tables 3 through 10, the differences in the mode response of 16 tasks were discussed. Again, this observation is made to emphasize the writer's opinion that the survey response provided consensual validation for a majority of the tasks.

One must be extremely careful in extrapolating to the general population the results of a survey, particularly a survey for which there was a small number of respondents. The following conclusions appear to be warranted by the data: (1) The task list composed by staff members of the Allied Health Professions Projects is highly representative of those tasks which are performed by Electroencephalographic Technicians. (2) Within the confines of the sample, there appears to be consensual validation for a majority of the tasks. (3) The data in Appendix E suggest that the National Technical Advisory Committee perceives that each task is done more frequently, requires more supervision, and is more difficult to perform than do the other samples. (4) Eighty-four percent of the tasks listed in the inventory are performed at a frequency greater than once a month. (5) The Technician does not

require a high degree of direct supervision of a majority of those tasks which were listed in the task inventory, that is, within the limitations set by the supervisor, the Technician has a high degree of autonomy. (6) A small proportion of those tasks which are being done were perceived as being difficult to perform.

On the basis of this survey, it is recommended that any educational training programs include material pertinent to each of the tasks listed on the task inventory. Furthermore, efforts should be undertaken to ascertain whether current training programs are fulfilling the current needs of EEG Technicians, that is, whether current training programs are teaching all of the tasks listed in the task inventory.

APPENDIX A

ALLIED HEALTH PROFESSIONS UNDER CONSIDERATION BY

THE UCLA ALLIED HEALTH PROFESSIONS PROJECTS

I. FACILITY SUPPORT SERVICES

1. Admitting Office

*Supervising admitting worker. (OE 14.0406; DOT 237.368-010)[1]

*Admitting Worker. (DOT 237.368-018, 237.368-030)

*Patient Service Representative

2. Business Office

*Hospital business office manager. (DOT 169.168-062)

*Cashier. (OE 14.0103; DOT 211.368-010)

*Account clerks.

*Hospital credit and collection worker. (OE 14.0199; DOT 240.388-101)

3. Central Service.

Central Service Technician (Central Service Helper). (OE 07.0905; DOT 223.887-010)

4. Engineering Maintenance.

*Emergency and/or disaster specialist. (OE 07.09070

5. Environmental Sanitation

Community Sanitation (Public Health Department). (OE 07.0701, 07.0702, 07.0703; DOT 199.187-010, 168.287-094)

Health Care Facility Sanitation

*Food sanitation and kitchen safety program. (OE 07.0799); (OE 07.0907)

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*Occupations marked with an asterisk are now being developed.

[1]U.S. Office of Education (OE) occupational code designations (six-digit) and occupational categories shown in the Dictionary of Occupational Titles (DOT) of the U.S. Department of Labor (nine-digit) are given where available, following each Project occupational category.

6. Food Service (Dietary)

*Food Service Supervisor. (OE 07.0908, 09.0203; DOT 319.138-010)

*Dietary Technician.

*Food Service Worker. (OE 09.0203; DOT 317.887-010)

7. Housekeeping. (OE 17.1100, 09.0205; DOT 187.168-050)

8. Laundry and Linen. (OE 17.1602)

9. Medical Records.

*Medical Record Technician. (DOT 249.388-034)

*Transcriptionist.

*Coding Clerk.

*File Clerk.

10. Pharmacy.

*Pharmacy Technician.

*Pharmacy Aide.

11. Purchasing

*Buyer. (DOT 162.158-102, 162.168-026, 162.188-010)

*Assistant Purchasing Agent. (DOT 162.158-102, 162-168-026, 162.188-010)

12. Ward Administration.

*Ward Manager.

*Ward Clerk. (DOT 219.388-286)

II. CLINICAL OCCUPATIONS

1. Bioelectrical Monitoring.

EEG (Electrocardiographic) Technician. (OE 07.0902; DOT 078.368-018)

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*Occupations marked with an asterisk are now being developed.

*EEG (Electroencephalographic) Technician. (OE 07.0901, 16.0302; DOT 078.368-022)

EMG (Electromyography) Technician.

2. Biomedical Photography.

*Biomedical Photography Technician. (OE 17.0901)

3. Dental Occupations.

*Dental Assistant. (OE 07.0101; DOT 079.378-010)

*Dental Hygienist. (OE 06.0301, 07.0102; DOT 078.368-014)

*Dental Laboratory Technician. (OE 06.0303, 07.0103; DOT 712.381-014)

4. Medical Assistant.

*Medical Office Assistant. (OE 07.0904; DOT 079.368-022, 201.368-014)

Special Assistants.

*Gastroenterology Assistant.

5. Medical Laboratory Functions.

*Medical Laboratory Technician. (OE 07.0203, 16.0303; DOT 078.281-018)

*Certified Laboratory Assistant (CLA). (OE 67.0203; DOT 078.381.010)

*Laboratory Aide.

Cytotechnologist.

Histologic Technician. (OE 07.0202; DOT 078.381-018)

6. Nursing Occupations.

*Registered Nurse (Technical). (OE 07.0301, 16.0305; DOT 075.378-014)

*Licensed Vocational/Practical Nurse. (OE 07.0302; DOT 079.378-026)

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*Occupations marked with an asterisk are now being developed.

*Nursing Assistant.

Operating Room Technician. (OE 07.0305; DOT 079.378-042)

Obstetrical Technician. (OE 07.0306; DOT 079.378-026)

Psychiatric Aide. (OE 07.0304; DOT 355.378-042)

7. Radiologic Technology.

*Diagnostic Technician. (OE 07.0501, 16.0304; DOT 078.368-030)

*Therapeutic Technician. (OE 07.0502; DOT 078.381-014)

8. Respiratory Care Functions.

Cardiopulmonary Technician.

*Inhalation Therapy Technician. (OE 07.0903; DOT 079.368-018)

9. Social Service Occupations.

*Community Health Aide. (OE 07.0906)

*Community Mental Health Aide. (OE 07.0801)

*Health Assistant (Aide).

10. The Therapies.

Occupational Therapy

*Occupational Therapy Assistant. (OE 67.0401; DOT 079.368-026)

*Occupational Therapy Aide.

Orthotics

Orthotic Technician. (OE 07.0404; DOT 712.281-018)

Physical Therapy.

Physical Therapy Assistant. (OE 07.0402; DOT 355.878-014)

Physical Therapy Aide.

---

*Occupations marked with an asterisk are now being developed.

APPENDIX B

NATIONAL TECHNICAL ADVISORY COMMITTEE

FOR EEG TECHNICIANS

ROSTER

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APPENDIX C

University of California, Los Angeles
Division of Vocational Education
Allied Health Professions Projects

TASK ANALYSIS SURVEY

This is part of a project to develop new courses of study and instructional materials for persons in the allied health professions. To find out what should be taught and how best to teach it, we must find out what tasks or functions really are performed by persons such as you who are working in the field.

We are asking the cooperation, therefore, of employees in a small, selected group of hospitals throughout the United States. You are one of these employees. YOUR ANSWERS ARE IMPORTANT!!

This is a confidential document for research purposes only. Your identification card will be kept separate from your answers to the questionnaire. Answers will be prepared for data processing and results will be reported by group only, not by individual.

INSTRUCTIONS.

We have gathered a listing of many of the tasks in your area of patient care or hospital services. This list contains tasks which might be done by anyone concerned with your area. Not all tasks will be done by all people. We would like to know the answers to three questions.

1. Frequency--how often do you perform this task.

2. Difficulty--how difficult is the task, primarily in terms of decision making and steps involved.

3. Supervision--are you supervised on this task or do you work without supervision.

Please read through the entire questionnaire first, placing a check mark next to those tasks you do. Then, go back over the list of tasks and answer the other questions about those tasks you actually do. Use the blank spaces provided to add tasks which you do that we may have omitted. Please read each task carefully and "X" the box in the appropriate column to show your answer. Our results depend to a great extent on how carefully you fill out this questionnaire!!

Our project will have a survey administrator in your area. He will

leave this questionnaire with you and will pick it up _____.

His name is _____. His telephone number is _____.

Please feel free to call him if you have any questions.

Going through each question now:

(a) The question on frequency is "How often do you do this task?" The possible answers are:

1. Daily or almost daily
2. Several times a week
3. Several times a month
4. Several times a year
5. Never or almost never

If a task is performed at irregular intervals, only as the need arises, select the most nearly appropriate answer.

(b) Supervision--How much supervision do you get for this task?

1. All the time
2. Most of the time
3. Occasionally
4. Rarely
5. No supervision

(c) Difficulty--How difficult is this task?

1. Routine procedure: Requires the recognition of information in performing simple procedures as directed.
2. Several procedures with minor decisions: Requires interpretation and recall of information to perform a series of procedures to complete a task.
3. Select the most suitable procedures: Requires the ability to solve new problems, with a minimum of direction, based upon past experience with similar situations.
4. Establish and/or modify procedures to meet individual circumstances: Requires analysis of a situation or problem and the formulation of the most suitable procedure for solution.
5. Making complex decisions with little precedent: Requires the ability to develop new methods of performance.

We thank you for your cooperation, and hope that the instructional materials which we develop in conjunction with this study will be helpful

to you, and to others entering your profession.

When you have finished, please enter at the bottom of the questionnaire the length of time it took you to answer all the questions. This is for our information, to help us to make it easier and shorter for others in the future.

C O N F I D E N T I A L D O C U M E N T
For Research Purposes Only

UCLA:AHPP:7-30-69

University of California, Los Angeles
Division of Vocational Education
Allied Health Professions Projects

TASK ANALYSIS SURVEY
BACKGROUND INFORMATION SHEET

I.D Number_____

Please complete this information sheet now and return it to the survey administrator. The answers to these questions are of importance as we try to evaluate responses from a large number of people across the United States where educational and licensure requirements for specific tasks may be very different

Remember, this is a confidential document, it is identified by number only, and will not be attached to your name.

1. RESPONDENT:

1.1 Position Title_____

1.2 Area of Patient Care or Hospital Services, i.e. Medical-Surgical, Psychiatric, Medical Records, etc. Please specify:

_____

1.3 Length of Time in Position_____

1.4 Age_____

1.5 Sex (circle one) M F

1.6 Marital Status (circle one0

Married Single Widowed Divorced Separated

2. PREVIOUS EXPERIENCE:

Type	Years
2.1_____	2.2_____
_____	_____
_____	_____

3. Highest Grade Completed Before Entering Educational or Training Program: (circle one)

1 - 8, 9, 10, 11, 12, Some College Baccalaureate

Post-Baccalaureate

4. Educational or Training Program Completed: (circle the number next to your answer)

1 -- None

2 -- On-Job Training: How Long? (circle one)

2 wks. 1 mo. 2 mos. 3 mos. longer than 3 mos.

3 -- Certificate or Diploma Program: (circle one)

6 mos. 1 yr. 2 yr. 3 yrs or more

4 -- Associate Degree

5 -- Baccalaureate Degree

6 -- Post-Baccalaureate Degree

5. Certification, Licensure, Registration Held; i.e., C.D.A., A.R.T., O.T.R., R.N., L.V.N.

Please specify:_____

6. Yearly Income Range: (circle one)

1 -- Less than 2,000

2 -- 2,000 - 3,999

3 -- 4,000 - 6,999

4 -- 7,000 - 9,999

5 --10,000 or more

C O N F I D E N T I A L D O C U M E N T

FOR RESEARCH PURPOSES ONLY

KLG:ba
8-8-69

EEG

	FREQUENCY: How often do you do this task?					SUPERVISION: How much supervision do you get for this task?					DIFFICULTY: How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions- Little precedent
I. SCHEDULING EEG EXAMINATIONS															
A. Receive consultation form	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1. Review	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Synthesize pertinent information	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
B. Schedule appointment with appropriate personnel.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
C. Arrange transportation of patient to EEG laboratory	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
II. PATIENT CONTACT AND EEG RECORD															
A. Record patient data on structured data sheet															
1. Name	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Referring service	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Review tentative diagnosis	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Review previous EEG records and reports	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Enter age	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

UCLA, Div. of Voc. Educ., EEG
07 09 01 00 00 TA 7-69

II. A. (continued)	FREQUENCY How often do you do this task?					SUPERVISION How much supervision do you get for this task?					DIFFICULTY How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never/ Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions Little precedent
6. Enter sex	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7. Enter laterality (handedness)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
8. Enter current medication (if any)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
9. Enter behavioral state of patient	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
10. Enter physical state of patient															
a. Pathological conditions (if any)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
b. Physical impairments (if any)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11. Enter post-absorbtive state.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
B. Take patient to examining room.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1. Place patient in the chair or on bed (use precautionary measures as needed)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Explain test procedures to patient.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
C. Measure skull in order to determine placement of electrodes.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
D. Attach electrodes															
1. Insert needle electrodes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Apply disc electrodes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

II. D. (continued)	FREQUENCY: How often do you do this task? Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	SUPERVISION: How much supervision do you get for this task? All the time	Most of the Time	Occasionally	Rarely	No Supervision	DIFFICULTY: How difficult is this task? Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions- Little precedent
a. Use of collodion	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
b. Use of paste	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
c. Other	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Recheck symmetry of electrodes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Plug electrodes into console (junction box).	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
E. Physical condition of examining room											1	2	3	4	5
1. Dim or turn off lights	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Restrict extraneous noise or disturbances	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
F. Record electrical potentials (brain wave).															
1. Turn on machine (pre-amplifier-amplifier-recorder).	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
a. Warm-up if necessary (occurs prior to attaching electrodes)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Check paper supply	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Check ink flow	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Check and select high filters	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

II. F. (continued)

	FREQUENCY: How often do you do this task?					SUPERVISION: How much supervision do you get for this task?					DIFFICULTY: How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions- Little precedent
5. Check and select low filters	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6. Select speed of paper drive	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
7. Perform internal calibration	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
8. Perform external calibration (signal from patient)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
9. Record montage as prescribed by encephalographer															
a. Choose instrument settings	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
b. Choose first montage	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
c. Label montages on record as selected	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
d. Observe and evaluate record in progress	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
e. Observe patient throughout procedure	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
f. Follow prescribed routines	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
g. Modify routines															
1. Select most appropriate montages	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Select appropriate activation procedures	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Annotate changes due to artifact	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

II. F. (continued)	FREQUENCY How often do you do this task?					SUPERVISION How much supervision do you get for this task?					DIFFICULTY How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions Little precedent
4. Eliminate-reduce artifact if possible	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Use activation procedures if possible or necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
a. Hyper-ventilation	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
b. Photic stimulation	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
c. Pain	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
d. Natural sleep	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
e. Sedated sleep	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
f. Sleep deprivation	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
h. Recognize and report															
1. Drowsiness	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Stages of sleep	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. focal abnormalities	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Generalized abnormalities	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Artifacts	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
i. Use special procedures															

II. F. (continued)

	FREQUENCY: How often do you do this task?					SUPERVISION: How much supervision do you get for this task?					DIFFICULTY: How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions Little precedent
1. Coma recordings	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Intensive care recordings	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Infectious disease / isolation techniques	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
10. Perform terminal calibration	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11. Review completed record	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
a. Make descriptive classification	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
12. Attach identifications and completed data sheet to record	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
13. Detach patient from recorder	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
a. Clean electrodes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
b. Sterilize electrodes	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
14. Return patient to floor care	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
15. Notify physician that EEG record has been completed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
a. When necessary transport record to encephalographer	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1. Discuss recording conditions with encephalographer when requested	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
16. Maintain and use appropriate filing, storage, and retrieval systems	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

III. EQUIPMENT SERVICES AND MAINTENANCE	FREQUENCY: How often do you do this task?					SUPERVISION: How much supervision do you get for this task?					DIFFICULTY: How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions- Little precedent
A. Fill ink reservoir as needed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
B. Check for breaks in electrode cables	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
C. Change stylus as necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
D. Adjust stylus pressure when necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
E. Adjust ink flow when necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
F. Change galvanometer when necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
G. Check and replace tubes when necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
H. Replace pre-amplifier/amplifier when necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I. Refill paper supply as needed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
J. Service electrodes as required															
1. Sharpen needles as required	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Check continuity of electrodes as required	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
K. Calibrate paper drive when necessary	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
L. Check batteries (if applicable)	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
M. Perform external calibration with signal generator	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

III. M. (continued)	FREQUENCY: How often do you do this task? Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	SUPERVISION: How much supervision do you get for this task? All the time	Most of the Time	Occasionally	Rarely	No Supervision	DIFFICULTY: How difficult is this task? Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions- Little precedent
1. Use oscilloscope to monitor signal generator	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
N. Preventive maintenance/cleaning															
1. Clean outer surface of machine	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. Clean inkwells of machine	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. Clean air filters on power supply	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. Clean electrical contacts	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5. Clean inside console	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6. Clean electrical board and cables	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
IV. SUPPLY FUNCTIONS: ORDER, STOCK, INVENTORY															
A. Recording supplies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
B. Cleaning supplies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
C. Maintenance supplies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
D. Clerical supplies	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

	FREQUENCY — How often do you do this task?					SUPERVISION — How much supervision do you get for this task?					DIFFICULTY — How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure- No decisions	Several procedures- Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions Little precedent
V. RESEARCH															
A. List the research projects in which you are currently active *	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
VI. EDUCATION															
A. List teaching functions which you perform *	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
VII. PROFESSIONAL SOCIETIES															
A. List memberships in professional societies/Indicate frequency of attendance	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

* If more space is needed, use back of form

VIII. OTHER DUTIES	FREQUENCY: How often do you do this task?					SUPERVISION: How much supervision do you get for this task?					DIFFICULTY: How difficult is this task?				
	Daily / Almost Daily	Several times a Week	Several times a Month	Several times a Year	Never / Almost Never	All the time	Most of the Time	Occasionally	Rarely	No Supervision	Routine procedure-No decisions	Several procedures-Minor decisions	Select most Suitable procedure	Establish and/or Modify procedure	Make complex decisions Little precedent
A. Duties related to EEG *	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
B. Duties unrelated to EEG *	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

UCLA AHPP EEG * If more space is needed, use back of form

APPENDIX D

LIST OF HEALTH CARE FACILITIES SELECTED FOR NATIONAL SURVEY

BIRMINGHAM

200 Beds or More	Baroness Erlanger Hospital	Chattanooga, Tennessee
	Baptist Medical Center	Birmingham, Alabama
100-199 Beds	Jeff Anderson Memorial Hosp.	Meridian, Mississippi
	St. Judes Catholic Hospital	Montgomery, Alabama
Under 100 Beds	Sam Howell Memorial Hospital	Cartersville, Georgia
	Athens-Limestone Hospital	Athens, Alabama
Extended Care Fac.	Plantation Manor	McCalla, Alabama
	St. Lukes Nursing Home	Birmingham, Alabama

BOSTON

200 Beds or more	Peter Bent Brigham Hospital	Boston, Massachusetts
	Memorial Hospital	Worcester, Massachusetts
100-199 Beds	Faulkner Hospital	Boston, Massachusetts
	Thayer Hospital	Waterville, Maine
Under 100 Beds	Mary Lane Hospital	Ware, Massachusetts
	Falmouth Hospital	Falmouth, Mass.
Extended Care Fac.	Hebrew Rehab. Center for Aged	Boston, Massachusetts
	Cambridge Nursing Home	Cambridge, Massachusetts

CHICAGO

200 Beds or more	Chicago Wesley Memorial Hosp.	Chicago, Illinois
	Memorial Hospital	Kenosha, Wisconsin
100-199 Beds	Delnor Hospital	St. Charles, Illinois
	Beloit Memorial Hospital	Beloit, Wisconsin
Under 100 Beds	DeKalb Public Hospital	DeKalb, Illinois
	Bethany Brethren Hospital	Chicago, Illinois
Extended Care Fac.	Hearthside Nursing Home	Chicago, Illinois
	Fox River Rehab. Center	Chicago, Illinois

DENVER

200 Beds or more	St. Marys Hospital	Grand Junction, Colorado
	St. Lukes Hospital	Denver, Colorado
100-199 Beds	Memorial Hospital of Laramie County	Cheyenne, Wyoming
	Poudre Valley Memorial Hosp.	Fort Collins, Colorado
Under 100 Beds	Alamosa County Hospital	Alamosa, Colorado
	Longmont Community Hospital	Longmont, Colorado
Extended Care Fac.	Ivy Manor Nursing Home	Denver, Colorado
	Eventide Nursing Home	Longmont, Colorado

LOS ANGELES

200 Beds or more	Kaiser Foundation Hospital	Panorama City, Calif.
	Santa Monica Hospital	Santa Monica, Calif.
100-199 Beds	Morningside Hospital	Los Angeles, Calif.
	West Valley Community Hosp.	Encino, California
Under 100 Beds	Community Hospital of Gardena	Gardena, California
	Garden Park General Hosp.	Anaheim, California
Extended Care Fac.	Kaiser Extended Care Fac.	Panorama City, Calif.
	Culver City Convalescent Hospital	Los Angeles, Calif.

SEATTLE

200 Beds or more	St. Francis Xavier Cabrini Hospital	Seattle, Washington
	Emmanuel Hospital	Portland, Oregon
100-199 Beds	St. Josephs Hospital	Aberdeen, Washington
	Van couver Memorial Hospital	Vancouver, Washington
Under 100 Beds	Tri-State Memorial Hospital	Clarkston, Washington
	West Seattle General Hosp.	Seattle, Washington
Extended Care Fac.	Mt. Baker Convalescent Home	Seattle, Washington
	L. C. Foss Sunset House	Seattle, Washington

APPENDIX E

EEG TECHNICIAN SURVEY

Interpersonal Tasks (Group A)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
1. Receive consultation form	F	16	100	1.1	63	90	1.6	20	80	2.0	6	100	1.0	105	92.5	1.6
	S	16	12	4.6	59	10	4.7	17	31	4.5	6	17	4.3	98	17.5	4.6
	D	16	100	1.6	61	93	1.7	16	93	1.5	6	100	1.5	99	91.5	1.6
4. Schedule appointment with appropriate personnel	F	14	100	1.2	64	94	1.4	20	80	2.0	6	100	1.3	104	93.5	1.5
	S	14	7	4.7	61	7	4.7	61	47	4.7	6	34	3.8	142	23.8	4.7
	D	14	93	1.1	64	97	1.6	15	87	1.8	6	83	2.5	99	90	1.6
5. Arrange transportation of patient to EEG laboratory	F	15	80	1.8	60	60	2.7	19	42	3.3	6	66	2.7	100	62.0	2.8
	S	14	7	4.7	54	2	4.9	15	47	4.0	6	34	3.8	89	22.3	4.6
	D	14	100	1.1	52	94	1.6	13	92	1.4	5	100	2.4	84	91.5	1.5
6. Record name	F	20	100	1.0	67	93	1.3	20	95	1.3	6	100	1.0	113	97	1.2
	S	20	5	4.8	65	2	4.8	17	6	4.9	6	0	5.0	108	3.3	4.8
	D	20	100	1.0	64	100	1.1	18	100	1.0	6	100	1.0	108	100	1.1
7. Record referring service	F	15	80	2.0	61	92	1.4	20	85	1.6	6	100	1.0	102	89.1	1.5
	S	13	7	4.8	59	4	4.9	15	13	4.5	6	0	4.7	93	6	4.8
	D	13	100	1.2	59	100	1.2	17	100	1.0	6	100	1.3	95	100	1.2
10. Enter age	F	20	100	1.0	68	96	1.2	20	95	1.3	6	100	1.0	114	97.3	1.2
	S	20	0	5.0	65	4	4.8	17	12	4.5	6	17	4.3	108	8.3	4.8
	D	20	100	1.2	65	100	1.1	18	100	1.0	6	100	1.0	109	100	1.1
11. Enter sex	F	20	95	1.2	65	88	1.5	19	89	1.6	6	83	1.7	110	88.3	1.5
	S	20	0	5.0	63	3	4.9	15	0	5.0	5	0	5.0	103	0.8	4.9
	D	20	100	1.0	61	100	1.1	16	94	1.3	5	100	1.0	102	98.5	1.1
12. Enter laterality (handedness)	F	18	72	2.1	62	73	2.2	20	70	2.3	6	100	1.0	106	78.3	2.1
	S	16	0	5.0	59	5	4.8	15	0	4.9	6	17	4.8	96	5.5	4.8
	D	14	100	1.0	55	100	1.2	16	95	1.4	6	100	1.2	91	98.8	1.2
13. Enter current medication (if any)	F	20	100	1.2	64	94	1.3	20	95	1.3	6	100	1.0	110	97.1	1.3
	S	19	16	4.6	62	6	4.8	16	25	4.4	6	17	4.0	103	16	4.5
	D	19	89	1.3	62	98	1.3	17	88	1.7	6	66	1.8	104	85.3	1.4
15. Pathological conditions (if any)	F	18	100	1.2	61	95	1.3	19	80	1.6	6	100	1.0	104	93.8	1.3
	S	18	33	4.3	58	7	4.6	14	43	4.1	6	34	3.7	96	29.3	4.4
	D	17	94	1.7	55	100	1.5	15	93	2.0	6	66	2.6	93	88.3	1.7

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

EEG TECHNICIAN SURVEY

Interpersonal Tasks (Group A)

	Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
			n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
16.	Physical impairments (if any)	F	16	100	1.1	62	94	1.4	19	89	1.6	6	100	1.0	103	95.3	1.4
		S	19	16	4.6	61	10	4.6	14	29	4.3	6	66	3.7	100	30.3	4.5
		D	19	95	1.6	57	98	1.4	15	93	1.9	6	66	2.6	97	88	1.6
17.	Enter post-absorbtive state	F	8	38	3.3	43	65	2.5	13	54	2.8	6	100	1.0	70	64.3	2.5
		S	6	33	4.3	38	16	4.5	11	18	4.5	5	40	4.2	60	24.8	4.5
		D	6	100	1.7	37	95	1.5	11	91	2.1	6	83	1.8	60	92.3	1.7
18.	Take patient to examining room	F	20	95	1.2	59	78	1.7	20	85	1.7	6	100	1.0	105	89.5	1.5
		S	20	5	4.8	58	5	4.8	16	25	4.3	5	20	4.6	99	13.8	4.7
		D	20	100	1.1	55	98	1.3	17	94	1.4	5	80	1.7	97	93	1.3
19.	Place patient in the chair or on bed (use precautionary measures as needed)	F	20	100	1.0	16	95	1.2	19	94	1.3	6	100	1.0	61	97.3	1.1
		S	20	15	4.6	65	8	4.7	16	19	4.4	5	20	4.4	106	15.5	4.6
		D	20	90	1.7	63	95	1.6	17	94	1.6	5	80	1.8	105	89.8	1.6
20.	Explain test procedures to patient	F	20	100	1.0	65	97	1.1	20	95	1.3	6	100	1.0	111	98	1.0
		S	20	0	5.0	64	3	4.9	17	12	4.7	5	20	4.2	106	8.8	4.9
		D	20	95	1.6	64	94	1.7	18	94	1.6	5	100	2.2	107	95.8	1.7
69.	Attach identifications and completed data sheet to record	F	20	100	1.0	67	95	1.2	19	94	1.3	6	100	1.0	112	97.3	1.2
		S	20	5	4.8	65	2	4.9	15	7	4.8	6	17	4.2	106	7.8	4.8
		D	20	100	1.1	65	98	1.1	16	100	1.0	6	83	1.5	107	95.3	1.1
70.	Detach patient from recorder	F	19	100	1.0	68	97	1.1	19	94	1.3	6	100	1.0	112	97.8	1.1
		S	19	0	5.0	67	0	5.0	15	7	4.8	6	17	4.2	107	6.0	4.9
		D	19	100	1.0	66	100	1.1	16	100	1.0	6	100	1.2	107	100	1.1
73.	Return patient to floor care	F	18	77	1.9	60	70	2.3	18	55	2.8	6	100	1.2	102	75.5	2.3
		S	14	0	4.9	55	4	4.8	10	10	4.6	6	0	4.5	85	3.5	4.8
		D	14	100	1.0	51	98	1.3	12	100	1.1	5	100	2.0	82	99.5	1.3
74.	Notify physician that EEG record has been completed	F	17	42	3.4	57	62	2.8	17	64	3.0	6	66	2.5	97	58.5	2.9
		S	14	7	4.8	48	4	4.9	11	0	4.9	5	20	4.4	78	7.8	4.8
		D	14	100	1.4	45	100	1.2	12	92	1.6	6	100	2.0	77	98	1.4
75.	When necessary, transport record to encephalographer	F	19	73	2.4	65	60	2.8	18	67	2.4	6	66	2.3	108	66.5	2.6
		S	17	6	4.8	59	4	4.9	14	0	5.0	4	25	4.3	94	8.8	4.9
		D	17	94	1.5	55	98	1.2	14	86	1.6	3	100	1.7	89	94.5	1.3

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

EEG TECHNICIAN SURVEY

Interpersonal Tasks (Group A)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
76. Discuss recording conditions with encephalographer when requested	F	20	95	2.1	67	73	2.4	18	89	2.0	6	100	1.5	111	89.3	2.2
	S	17	24	4.4	61	20	4.4	13	46	3.7	5	40	3.8	96	32.5	4.3
	D	18	94	1.4	58	100	1.4	13	92	1.5	6	66	3.4	95	88	1.5

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survay response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

EEG TECHNICIAN SURVEY

Clinical EEG (Group B)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
2. Review	F	15	93	1.4	57	88	1.7	19	84	1.8	6	100	1.0	97	91.3	1.6
	S	15	13	4.5	55	7	4.7	16	27	3.9	6	66	3.5	92	28.3	4.4
	D	15	87	1.9	56	91	1.9	15	87	2.1	6	100	1.9	92	91.3	1.9
3. Synthesize pertinent information	F	15	100	1.0	55	93	1.4	20	80	2.1	6	100	1.0	96	93.3	1.5
	S	15	33	4.1	55	9	4.6	17	41	4.1	6	66	3.5	93	37.3	4.4
	D	15	87	2.2	57	89	2.1	17	76	2.5	6	66	2.8	95	79.5	2.2
8. Review tentative diagnosis	F	18	100	1.0	64	92	1.4	19	84	1.6	6	100	1.0	107	94	1.3
	S	18	17	4.2	61	8	4.7	15	47	3.5	6	66	3.5	100	34.5	4.4
	D	18	89	2.0	61	92	1.8	16	100	1.6	6	66	2.3	101	86.8	1.8
9. Review previous EEG records and reports	F	19	84	1.8	67	97	1.4	20	90	1.7	6	100	1.2	112	92.8	1.5
	S	16	25	4.3	65	15	4.5	16	50	3.5	6	83	3.2	103	43.3	4.2
	D	16	75	1.8	64	89	1.6	16	100	1.3	6	83	2.5	102	86.8	1.6
14. Enter behavioral state of patient	F	19	100	1.2	66	91	1.5	20	90	1.5	6	100	1.0	111	95.3	1.4
	S	19	10	4.6	63	6	4.8	16	25	4.4	6	66	4.3	104	26.8	4.7
	D	19	79	1.8	61	97	1.4	17	88	1.7	6	66	2.3	103	82.5	1.6
21. Measure skull in order to determine placement of electrodes	F	20	80	2.0	62	77	1.9	19	79	2.0	6	100	1.0	107	84	1.9
	S	19	16	4.6	61	3	4.9	15	13	4.7	5	100	4.6	100	33	4.8
	D	19	100	1.9	58	83	1.9	16	94	1.8	5	80	2.0	98	89.3	1.9
22. Insert needle electrodes	F	15	47	3.4	53	41	3.5	17	71	3.9	6	50	3.2	91	52.3	3.5
	S	9	11	4.7	44	9	4.8	9	11	4.4	5	40	3.6	67	17.8	4.6
	D	9	78	1.9	39	90	1.8	9	100	1.4	5	80	2.8	62	87	1.8
23. Apply disc electrodes	F	20	100	1.3	64	97	1.2	20	90	1.4	6	83	1.8	110	92.5	1.3
	S	20	15	4.7	62	3	4.8	17	12	4.7	5	40	4.6	104	17.5	4.8
	D	20	100	1.5	61	92	1.6	18	89	1.7	5	80	2.4	104	90.3	1.6
24. Use of collodion	F	16	44	3.4	53	36	3.7	19	73	3.8	6	83	1.8	94	59	3.5
	S	12	0	5.0	42	5	4.8	9	0	4.9	6	0	4.5	69	1.3	4.8
	D	12	100	1.3	40	92	1.6	10	90	1.4	6	100	1.7	68	95.5	1.5
25. Use of paste	F	20	80	1.5	64	84	1.7	20	75	2.0	6	66	2.3	110	76.3	1.8
	S	19	0	5.0	62	2	4.7	15	7	4.8	5	0	4.6	101	2.3	4.8
	D	19	100	1.2	61	93	1.5	16	100	1.1	5	86	2.2	101	94.8	1.4

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX E (continued)

EEG TECHNICIAN SURVEY

Clinical EEG (Group B)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
26. Other	F	5	20	4.2	29	52	3.3	10	30	3.8	3	0	4.3	47	25.5	3.6
	S	1	100	3.0	30	10	4.7	6	17	4.0	2	50	3.5	39	44.3	4.5
	D	1	100	2.0	30	93	1.8	5	80	1.1	2	50	4.0	38	80.8	1.8
27. Recheck symmetry of electrodes	F	20	100	1.2	66	99	1.3	20	85	1.8	6	100	1.0	112	96	1.4
	S	20	10	4.7	65	5	4.9	15	20	4.4	6	17	4.3	106	13	4.7
	D	19	95	1.6	64	95	1.4	16	100	1.1	6	83	1.8	105	93.3	1.4
28. Plug electrodes into console (junction box)	F	17	82	1.9	64	92	1.4	19	89	1.5	6	100	1.0	106	90.8	1.5
	S	15	0	4.9	63	3	4.9	15	0	4.9	6	0	4.8	99	.8	4.9
	D	15	93	1.2	61	97	1.2	16	100	1.1	6	100	1.2	88	97.5	1.3
30. Dim or turn off lights	F	20	90	1.4	67	94	1.4	20	90	1.6	6	100	1.0	113	93.5	1.5
	S	19	0	5.0	65	2	5.0	15	7	4.7	6	0	5.0	105	2.3	4.9
	D	19	100	1.4	65	97	1.3	17	88	1.5	6	100	1.0	107	96.3	1.3
31. Restrict extraneous noise or disturbances	F	20	95	1.2	67	97	1.2	19	89	1.4	6	100	1.2	112	95.3	1.2
	S	20	0	5.0	65	3	4.9	15	7	4.7	6	17	4.8	106	6.8	4.9
	D	20	100	1.2	65	97	1.4	16	100	1.1	6	100	1.3	107	99.8	1.3
32. Turn on machine (pre-amplifier-amplifier-recorder)																
33. Warm up if necessary (occurs prior to attaching electrodes)	F	20	95	1.2	63	95	1.2	20	90	1.5	6	100	1.0	109	96.3	1.2
	S	19	0	5.0	61	0	5.0	16	6	4.7	6	0	5.0	102	1.5	5.0
	D	19	100	1.1	61	97	1.2	17	100	1.0	6	100	1.0	103	99.3	1.1
41. Choose instrument settings	F	17	94	1.4	61	95	1.2	17	88	1.5	6	100	1.0	101	94.3	1.3
	S	17	24	4.4	61	8	4.7	13	15	4.5	6	17	4.2	97	16	4.6
	D	17	94	1.9	60	92	1.9	15	93	1.7	6	100	1.8	98	94.8	1.9
42. Choose first montage	F	17	88	1.7	60	90	1.5	17	83	1.5	6	100	1.0	100	90.3	1.5
	S	16	12	4.7	59	7	4.7	12	17	4.4	6	17	4.2	93	13.3	4.6
	D	16	100	1.3	58	90	1.8	14	93	1.4	6	83	2.2	94	91.5	1.7
43. Label montages on record in progress	F	19	94	1.2	64	98	1.1	19	94	1.3	6	100	1.0	108	96.5	1.1
	S	18	0	4.9	63	6	4.8	15	7	4.7	6	0	5.0	102	3.3	4.8
	D	18	100	1.0	61	95	1.3	16	100	1.1	6	100	1.2	101	98.8	1.2

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX E (continued)

EEG TECHNICIAN SURVEY

Clinical EEG (Group B)

	Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
			n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
44.		F	19	100	1.0	64	98	1.1	19	94	1.3	6	100	1.0	108	98	1.1
		S	18	22	4.4	63	2	4.9	15	28	4.3	6	66	3.5	102	29.5	4.6
		D	17	82	1.9	62	84	2.1	16	94	1.6	6	66	3.0	101	81.5	2.0
45.	Observe patient throughout procedure	F	19	100	1.0	64	97	1.2	19	94	1.3	6	100	1.0	108	97.8	1.2
		S	18	11	4.6	63	0	5.0	15	27	4.3	6	50	3.8	102	22	4.8
		D	18	100	1.5	62	94	1.7	17	100	1.7	6	66	2.7	103	90	1.7
46.	Follow prescribed routines	F	19	100	1.0	61	95	1.3	20	85	1.7	6	100	1.0	106	95	1.3
		S	18	17	4.6	61	3	4.9	15	13	4.6	6	17	4.2	100	15	4.8
		D	18	100	1.2	59	90	1.7	16	88	1.8	6	83	2.8	99	90.3	1.7
47.	Select most appropriate montages	F	17	82	2.0	62	87	1.7	19	63	2.6	6	100	1.2	104	83	1.9
		S	16	25	4.4	62	8	4.6	13	38	3.9	6	83	3.0	97	38.5	4.4
		D	17	76	2.4	60	75	2.5	12	83	2.3	6	33	3.7	95	66.8	2.5
48.	Select appropriate activation procedure	F	17	88	1.6	60	88	1.6	19	73	2.0	6	100	1.2	102	87.3	1.7
		S	16	31	4.3	58	22	4.3	14	50	3.6	6	83	3.2	94	46.5	4.1
		D	16	88	2.1	58	69	2.6	14	93	2.0	6	50	3.5	94	75	2.5
49.	Annotate changes due to artifact	F	18	88	1.6	63	94	1.3	19	89	1.5	6	100	1.2	106	92.8	1.4
		S	18	17	4.6	62	3	4.8	15	20	4.4	6	0	4.3	101	10	4.7
		D	18	89	1.9	61	85	1.9	15	100	1.5	6	83	2.3	100	89.3	1.9
50.	Eliminate-reduce artifact if possible	F	20	100	1.1	67	97	1.2	19	94	1.3	6	100	1.3	112	97.8	1.2
		S	20	30	4.3	66	1	4.9	17	41	3.9	6	50	3.7	109	30.5	4.6
		D	20	85	2.2	66	89	2.0	17	88	1.9	6	66	3.0	109	82	2.1
51.	Use activation procedures if possible or necessary	F	19	100	1.0	65	95	1.2	17	82	1.7	6	100	1.0	107	94.3	1.2
		S	19	26	4.3	63	11	4.7	14	57	3.6	6	50	3.5	102	36	4.4
		D	18	100	1.9	62	82	2.3	13	92	2.4	6	66	3.2	99	85	2.3
52.	Hyper-ventilation	F	20	100	1.0	67	97	1.1	19	94	1.4	6	100	1.0	112	97.8	1.1
		S	20	20	4.6	64	2	4.9	16	25	4.3	6	34	3.5	106	20.3	4.7
		D	20	90	2.0	65	86	2.0	16	93	1.6	5	80	2.6	107	87.3	1.9
53.	Photic stimulation	F	19	78	1.8	66	83	1.7	19	73	2.1	6	100	1.0	110	83.5	1.7
		S	17	24	4.5	60	8	4.7	14	21	4.4	6	50	3.3	97	25.8	4.5
		D	17	94	1.9	63	86	2.1	14	93	1.9	6	83	2.8	100	89	2.1

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX E (continued)

EEG TECHNICIAN SURVEY

Clinical EEG (Group B)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
54. Pain	F	16	19	4.3	55	22	4.0	15	40	3.9	6	83	3.2	92	41	4.0
	S	12	67	3.2	44	18	4.3	10	30	4.1	5	100	2.2	71	53.8	3.9
	D	10	100	2.4	43	79	2.5	9	56	3.3	5	60	3.8	67	73.8	2.7
55. Natural sleep	F	19	84	2.1	66	94	1.7	19	79	2.2	6	100	1.0	110	89.3	1.8
	S	19	26	4.4	64	3	4.9	15	27	4.4	6	17	3.7	104	18.3	4.7
	D	19	100	1.7	64	91	1.9	15	100	1.6	6	83	2.2	104	93.5	1.8
56. Sedated sleep	F	20	90	2.1	66	86	2.1	19	63	2.7	6	100	1.3	111	84.8	2.2
	S	19	63	3.2	63	22	4.2	15	40	3.9	6	83	2.7	103	52	3.9
	D	19	95	1.8	63	84	2.3	15	93	2.4	6	83	2.8	103	88.8	2.3
57. Sleep deprivation	F	16	50	3.4	57	37	3.8	18	66	3.9	6	-	4.3	97	38.3	3.8
	S	12	33	4.1	45	9	4.7	12	33	4.1	4	75	2.8	73	37.5	4.4
	D	11	100	1.7	41	88	2.2	10	80	2.2	4	75	3.0	66	85.8	2.2
58. Drowsiness	F	20	95	1.4	67	97	1.1	19	89	1.6	6	100	1.0	112	95.3	1.2
	S	20	5	4.8	64	2	4.9	15	34	4.2	6	17	4.0	105	14.5	4.7
	D	20	90	1.6	62	95	1.3	16	100	1.4	6	100	2.2	104	96.3	1.4
59. Stages of sleep	F	20	80	2.1	66	85	1.8	19	79	2.1	6	100	1.0	111	86	1.9
	S	20	5	4.7	63	2	4.9	14	43	4.2	6	17	4.0	103	16.8	4.7
	D	20	85	1.8	59	93	1.5	15	100	1.6	6	100	2.2	100	94.5	1.6
60. Focal abnormalities	F	19	84	2.0	65	91	1.5	18	72	2.3	6	100	1.0	108	86.8	1.7
	S	19	32	4.2	63	10	4.7	13	46	3.9	6	66	3.3	101	38.5	4.4
	D	19	84	2.2	59	75	2.2	14	86	2.0	6	50	3.2	98	73.8	2.2
61. Generalized abnormalities	F	19	84	2.0	65	89	1.6	18	77	2.1	6	100	1.0	108	87.5	1.7
	S	19	32	4.1	63	8	4.7	13	31	4.1	6	66	3.3	101	34.3	4.4
	D	19	84	2.2	59	85	2.0	14	64	1.9	6	50	3.2	98	70.8	2.1
62. Artifacts	F	20	95	1.4	67	98	1.1	19	89	1.6	6	100	1.2	112	95.5	1.2
	S	20	10	4.6	65	2	4.9	16	31	4.2	6	34	3.8	107	19.3	4.7
	D	20	85	1.8	64	86	1.8	17	94	1.7	6	66	2.8	107	82.8	1.8
63. Coma recordings	F	19	57	3.3	63	49	3.4	19	52	3.4	6	83	2.8	107	60.3	3.3
	S	18	44	3.3	58	22	4.3	13	54	3.6	6	83	2.3	95	50.8	3.9
	D	18	61	2.9	56	71	2.7	13	62	3.0	5	40	3.4	92	58.5	2.8

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

EEG TECHNICIAN SURVEY

Clinical EEG (Group B)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
64. Intensive care recordings	F	17	64	3.4	63	49	3.6	19	63	3.4	6	83	2.8	95	67.8	3.9
	S	15	73	2.6	56	23	4.2	13	62	3.2	5	100	1.8	89	64.5	3.6
	D	15	66	3.1	52	65	3.0	13	54	3.3	4	25	4.0	84	52.5	3.1
65. Infectious disease/isolation techniques	F	17	6	4.5	61	26	4.1	19	16	4.1	6	0	4.0	103	12	4.2
	S	10	60	3.0	55	31	4.1	12	33	3.7	6	83	2.3	83	51.8	3.8
	D	9	66	3.1	52	79	2.6	12	75	2.8	6	33	3.8	79	63.3	2.8
67. Review completed record	F	17	88	1.5	65	92	1.4	18	94	1.3	6	100	1.0	106	93.5	1.4
	S	15	60	3.3	62	13	4.5	14	43	3.9	6	66	3.2	97	47.5	4.1
	D	14	100	1.3	61	93	1.4	13	100	1.4	6	83	2.3	94	94	1.4
68. Make descriptive classification	F	16	66	2.6	57	73	2.2	18	64	2.7	6	83	1.5	97	71.5	2.2
	S	11	45	3.8	53	8	4.7	13	38	4.0	5	80	2.8	82	42.8	4.4
	D	11	91	1.6	49	88	1.7	12	92	1.9	5	60	3.4	77	82.8	1.8
69. Attach identifications and completed data sheet to record																
70. Detach patient from recorder	F	19	100	1.0	68	97	1.1	19	94	1.3	6	100	1.0	112	97.8	1.1
	S	19	0	5	67	0	5.0	15	7	4.8	6	17	4.2	107	6	4.9
	D	19	100	1.0	66	100	1.1	16	100	1.0	6	100	1.2	107	100	1.1
71. Clean electrodes	F	20	100	1.0	68	97	1.2	19	94	1.3	6	100	1.0	113	97.8	1.2
	S	20	0	5	67	1	4.9	15	0	4.9	6	17	4.2	108	4.5	4.9
	D	20	100	1.0	66	100	1.1	16	100	1.0	6	100	1.4	108	100	1.1
72. Sterilize electrodes	F	17	76	2.4	58	64	2.6	16	64	2.9	6	50	2.7	97	63.5	2.6
	S	15	0	5.0	53	4	4.9	11	18	4.5	6	0	4.5	85	5.5	4.8
	D	15	100	1.0	50	100	1.2	11	91	1.8	5	80	2.0	81	92.8	1.3

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX E (continued)

EEG TECHNICIAN SURVEY

Instrumentation (Group C)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
32. Turn on machine (pre-amplifier-amplifier-recorder)	F	20	100	1.0	66	78	1.1	20	90	1.5	6	100	10	112	92	1.3
	S	20	0	5	64	0	5.0	16	12	4.6	6	0	5	106	3	4.8
	D	20	95	1.2	64	97	1.2	17	100	1.0	6	100	1.0	107	98	1.2
34. Check paper supply	F	20	100	1.1	63	95	1.2	20	95	1.3	6	100	1.0	109	98	1.2
	S	20	0	5	65	0	5.0	16	6	4.8	6	0	5	107	1.5	4.9
	D	20	100	1.0	65	95	1.2	17	100	1.0	6	100	1.0	108	98.8	1.1
35. Check ink flow	F	20	100	1.1	67	97	1.3	20	90	1.5	6	100	1.0	113	96.8	1.3
	S	20	0	5	64	0	5.0	16	6	4.8	6	0	5	106	1.5	4.7
	D	20	100	1.0	64	97	1.2	17	100	1.0	6	100	1.3	107	99.3	1.1
36. Check and select high filters	F	18	100	1.2	67	97	1.2	19	84	1.7	6	100	1.2	100	95.3	1.3
	S	18	6	4.8	65	2	5.0	15	27	4.3	6	17	4.2	104	13	4.8
	D	18	89	1.7	65	97	1.7	16	100	1.4	6	83	2.2	105	92.3	1.7
37. Check and select low filters	F	17	94	1.5	61	93	1.4	19	83	2.0	6	100	1.2	103	92.5	1.5
	S	16	19	4.4	61	3	4.9	15	34	4.3	6	34	4.0	98	23.3	4.7
	D	16	88	1.9	60	93	1.9	17	100	1.5	6	83	2.5	99	91	1.9
38. Select speed of paper drive	F	18	66	2.4	62	82	1.7	20	79	2.1	6	100	1.5	106	81.8	1.9
	S	15	13	4.5	61	0	5.0	15	7	4.6	6	34	4.2	97	13.5	4.7
	D	15	93	1.5	61	97	1.5	17	100	1.2	6	83	2.3	99	93.3	1.3
39. Perform internal calibration	F	18	88	1.8	62	92	1.4	18	89	1.4	6	100	1.0	104	92.3	1.4
	S	15	28	4.5	59	2	5.0	13	8	4.6	6	0	4.9	93	9.5	4.9
	D	15	93	1.3	59	95	1.4	16	100	1.3	6	100	1.2	96	97	1.4
40. Perform external calibration (signal from patient)	F	15	86	1.5	60	88	1.6	18	78	1.9	6	100	1.0	99	88	1.6
	S	13	15	4.7	57	2	5.0	14	7	4.6	6	0	4.7	90	6	4.9
	D	13	100	1.0	55	93	1.6	13	87	1.5	6	100	1.5	87	95	1.5
66. Perform terminal calibration	F	18	100	1.4	62	84	1.7	19	68	2.3	6	100	1.0	105	88	1.7
	S	18	19	4.6	59	7	4.8	12	17	4.4	6	0	4.7	95	10.8	4.7
	D	18	100	1.3	56	95	1.3	13	100	1.2	6	100	1.7	93	98.8	1.3
78. Fill ink reservoir as needed	F	20	100	2.0	69	97	1.7	19	94	1.5	6	100	1.2	114	97.8	1.7
	S	20	0	5	64	2	4.9	16	0	5	6	0	5	106	.5	5.0
	D	20	100	1.0	66	100	1.0	17	100	1.0	6	100	1.0	109	100	1.0

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX E (continued)

EEG TECHNICIAN SURVEY

Instrumentation (Group C)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
79. Check for breaks in electrode cables	F	19	63	2.4	65	85	2.1	19	89	2.3	5	80	1.7	108	79.3	2.1
	S	18	19	4.6	62	3	4.9	16	12	4.6	5	40	4.2	101	18.5	4.8
	D	18	100	1.3	63	98	1.3	17	100	1.4	5	100	1.8	103	99.5	1.4
80. Change stylus as necessary	F	20	40	3.5	66	32	3.4	19	17	3.7	6	17	3.3	111	26.5	3.5
	S	18	27	4.5	65	3	4.9	15	13	4.7	6	50	3.3	104	23.3	4.7
	D	18	100	1.3	65	100	1.3	16	94	1.4	6	83	2.2	105	94.3	1.4
81. Adjust ink flow when necessary	F	16	68	3.3	64	30	3.5	19	32	3.6	6	66	3.2	105	49	3.4
	S	16	19	4.5	60	3	4.9	15	13	4.5	5	40	3.4	96	18.8	4.7
	D	16	100	1.4	61	100	1.3	16	94	1.6	5	100	2.2	98	98.5	1.4
82.	F	18	72	2.4	63	59	2.8	18	72	2.5	6	100	1.2	105	75.8	2.6
	S	16	12	4.6	59	2	4.9	15	7	4.9	6	0	4.8	96	5.3	4.8
	D	16	100	1.0	58	100	1.1	16	100	1.1	6	100	1.5	96	100	1.1
83. Change galvanometer when necessary	F	18	0	4.8	51	11	4.3	16	12	4.4	6	0	4.8	91	5.8	4.4
	S	8	37	3.8	45	7	4.7	9	22	4.2	4	100	1.2	66	41.5	4.3
	D	8	63	2.3	43	93	1.8	8	100	1.9	5	20	4.2	64	69	2.1
84. Check replace tubes when necessary	F	19	22	4.1	65	16	3.8	19	32	3.7	6	50	3.5	109	30	3.8
	S	14	14	4.4	62	8	4.8	15	20	4.2	6	66	3.2	97	27	4.6
	D	14	93	1.5	61	97	1.7	16	94	1.9	6	83	2.7	97	91.8	1.8
85. Replace pre-amplifier/amplifier when necessary	F	18	6	4.6	57	10	4.4	19	21	4.0	6	17	4.3	100	13.5	4.2
	S	9	22	3.8	54	4	4.7	13	46	3.7	5	80	2.0	81	38	4.3
	D	9	100	1.7	53	91	1.8	14	93	2.1	5	60	3.2	72	86	2.2
86. Refill paper supply as needed	F	20	100	1.4	67	94	1.7	19	94	1.6	6	100	1.2	112	97	1.6
	S	20	0	5	63	2	4.9	16	0	4.9	6	0	5	105	.5	4.9
	D	20	100	1.0	63	100	1.1	17	100	1.1	6	100	1.0	106	100	1.1
87. Sharpen needles as required	F	18	47	3.9	61	41	3.6	16	69	3.8	6	50	3.3	101	51.8	3.7
	S	8	12	4.8	40	5	4.9	12	25	4.3	5	20	4.0	65	15.5	4.7
	D	8	100	1.4	40	97	1.3	12	100	1.3	5	80	2.0	65	94.3	1.3
88. Check continuity of electrodes as required	F	18	72	2.2	63	76	2.2	18	89	2.1	6	83	2.2	105	80	2.2
	S	16	6	4.8	59	2	4.9	15	13	4.5	6	50	3.8	96	17.8	4.8
	D	16	100	1.2	60	100	1.2	15	100	1.1	6	100	1.5	97	100	1.2

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

EEG TECHNICIAN SURVEY

Instrumentation (Group C)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
89. Calibrate paper drive when necessary	F	16	50	3.0	60	52	3.0	17	24	3.9	5	20	3.3	98	36.5	3.2
	S	14	14	4.5	55	4	4.8	12	17	4.3	4	75	2.3	85	27.5	4.6
	D	14	100	1.4	54	100	1.2	12	100	1.4	4	50	3.5	84	87.5	1.4
90. Check batteries (if applicable)	F	14	57	2.9	37	24	3.9	13	23	4.2	5	40	3.0	69	36	3.7
	S	11	9	4.6	57	4	4.8	11	9	4.5	4	25	3.3	83	11.8	4.7
	D	11	100	1.0	35	100	1.3	11	100	1.2	4	100	1.5	61	100	1.2
91. Perform external calibration with signal generator	F	17	52	2.9	51	70	3.7	17	18	4.1	5	0	4.8	90	35	3.7
	S	13	31	4.2	40	13	4.6	10	30	3.7	3	100	1.3	66	43.5	4.2
	D	13	100	1.2	39	94	1.7	10	80	2.2	3	0	5.0	65	68.5	1.8
92. Use oscilloscope to monitor signal generator	F	15	20	4.4	47	9	4.6	18	11	4.4	5	0	5.0	85	10	4.5
	S	7	14	4.4	24	17	4.3	9	56	3.0	3	100	1.0	43	46.8	3.8
	D	6	100	1.2	24	79	2.2	7	43	3.4	3	0	5.0	40	55.5	2.5
93. Clean outer surface of machine	F	20	90	2.2	67	72	2.2	20	85	2.1	6	100	1.5	113	86.8	2.1
	S	20	0	5	65	2	4.9	16	6	4.9	6	0	5	107	2	4.9
	D	20	100	1.0	65	100	1.1	16	100	1.1	6	100	1.6	107	100	1.1
94. Clean inkwells of machine	F	19	57	3.2	65	72	3.0	20	60	3.0	6	100	2.8	110	72.3	3.0
	S	18	0	4.9	62	2	4.9	16	0	5.0	6	17	4.2	102	4.8	4.9
	D	18	100	1.0	64	100	1.1	16	100	1.0	6	100	1.5	104	100	1.1
95. Clean air filters on power supply	F	18	50	3.8	62	58	3.2	20	50	3.4	6	83	3.2	96	60.3	3.7
	S	13	31	4.1	60	2	4.9	16	0	4.9	6	17	4.2	95	12.5	4.7
	D	13	100	1.3	60	100	1.1	16	100	1.1	6	100	1.6	95	100	1.2
96. Clean electrical contacts	F	17	36	3.6	59	42	3.4	19	43	3.4	6	17	4.3	101	34.5	3.5
	S	11	27	4.2	56	4	4.9	14	7	4.8	5	80	2.4	86	29.5	4.6
	D	11	100	1.5	54	100	1.2	13	100	1.1	5	60	3.2	83	90	1.3
97. Clean inside console	F	16	25	4.0	58	29	3.8	19	26	3.6	6	34	3.3	99	28.5	3.8
	S	10	0	5	55	2	4.9	14	14	4.7	6	17	4.3	85	8.3	4.5
	D	10	100	1.3	52	98	1.3	13	100	1.1	6	83	2.0	81	95.3	1.3
98. Clean electrical board and cables	F	19	78	2.8	63	63	2.9	19	74	2.4	6	66	2.8	107	70.3	2.8
	S	15	0	4.9	62	3	4.9	15	0	5.0	5	20	4.6	97	5.8	4.9
	D	15	100	1.0	61	100	1.1	14	100	1.0	5	100	1.5	95	100	1.1

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX E (continued)

EEG TECHNICIAN SURVEY

Miscellaneous Functions (Group D)

Task	Dimension	National Sample N = 20			Journal Sample N = 68			AES Sample N = 24			NTAC N = 6			Total N = 118		
		n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3	$\bar{x}$	n	% 1-3*	$\bar{x}$
77. Maintain and use appropriate filing, storage and retrieval systems	F	20	90	1.6	66	97	1.3	19	94	1.4	6	100	1.0	111	95.3	1.4
	S	18	17	4.5	65	8	4.7	15	34	4.3	6	83	3.3	104	35.5	4.5
	D	18	100	1.2	63	94	1.6	16	100	1.4	6	66	2.7	103	90	1.6
99. Recording supplies	F	19	78	3.0	66	48	3.1	20	60	3.3	6	66	3.3	111	67.5	3.2
	S	18	17	4.6	65	3	4.9	15	20	4.2	6	17	4.9	104	14.3	4.7
	D	18	100	1.1	65	98	1.3	15	93	1.3	6	83	1.6	104	93.5	1.3
100. Cleaning supplies	F	19	52	3.5	64	50	3.4	19	57	3.2	6	66	3.6	108	56.3	3.4
	S	14	0	5.0	63	2	4.9	15	20	4.3	5	20	4.9	97	10.5	4.8
	D	15	100	1.1	63	98	1.2	15	100	1.1	5	80	1.8	98	94.5	1.2
101. Maintenance supplies	F	18	50	3.4	65	46	3.3	19	48	3.5	6	50	3.8	108	48.5	3.4
	S	14	7	4.7	64	3	4.9	15	20	4.2	5	40	4.9	98	17.5	4.8
	D	15	100	1.1	64	98	1.3	15	93	1.3	5	80	2.0	99	92.8	1.3
102. Clerical supplies	F	18	77	3.0	64	46	3.2	19	48	3.4	6	83	3.3	107	63.5	3.2
	S	15	13	4.6	63	3	4.9	15	20	4.4	6	34	4.9	99	17.5	4.8
	D	16	100	1.1	63	98	1.3	15	100	1.1	6	83	1.9	100	95.3	1.3

Code: n = number of respondents for each task; % 1-3 = percentage of respondents included in categories one, two, and three (original survey response); $\bar{x}$ = mean category selected; F = frequency; S = supervision; D = difficulty

* mean of all groups

APPENDIX F

RESEARCH:

National Sample	EEG Journal Survey
1. Eye movement artifact	1. Sleep recordings
2. Average electrode	2. Twin recordings
3. Headache	3. Hypoglycemia
4. Brain tumors with isotope	4.
5. Cerebral death determination	5. Photic stimulation
	6. Revital activation studies for activating cephalic epileptic foci
	7. Alcoholism
	8. Treatment of induced schizophrenic systems with niacin
	9. Perceptual deprivation
	10. Quantitative analysis of the EEG in psychopathological state
	11. Slope posterior rhythms in the EEG
	12. EEG studies on patients referred for gasoline and glue inhalation
	13. Epileptic frequency, laterality, head injuries
	14. Operate conditioning
	15. Mental retardation survey
	16. Single seizure study
	17. Response threshold study
	18. Habituation for dialectics
	19. 14 and 6 sec. rhythm in children
	20. Depth recording with convulsive disorders
	21. Eye movement studies

EDUCATION:

1. On-the-job training of tech.	1. Technician training courses
2. Orientation of practical nurses to the why and what of EEG	2. Orientation courses for aides
3. Orientation lectures for LPN's, RN's, and other staff personnel	3. Orientation courses for clerical personnel
4. Teaching portable recording technique	4. Assist in training resident M.D.
	5. Orient nurses to EEG
	6. Supervise departmental in-service education
	7. Supervise paramedical education
	8. Training residents
	9. Orienting ward clerks to EEG
	10. Orienting Neurology interns and resident to EEG

11. Orienting four-year medical students to EEG procedures
12. Training of youth core
13. Training of welfare receipients
14. Orienting medical technology student to EEG

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

National Sample

1. American Society for EEG Technologists
2. Western EEG Technician Society
3. Wyoming Society of Medical Technologists
4. Southern Society of EEG Technology
5. American Society of EEG Technology
6. X-Ray Society

EEG Journal Survey

1. Rocky Mountain EEG Society
2. Canadian Society for EEG Technologists
3. Southern Society for EEG Technologists
4. Oklahoma Society for EEG Technologists
5. Metropolitan EEG Society
6. Michigan EEG Society
7. New England Society of EEG Technicians
8. American EEG Association
9. Bay Area Society of EEG Technicians
10. Western Society of EEG Technicians
11. Central Society of EEG Technicians
12. Ohio State Society for EEG Technicians
13. Oklahoma Society for EEG
14. Philadelphia Regional Society for EEG
15. American Epilepsy Association
16. Alabama Association of Medical Technicians
17. American Society of Medical Technologists

OTHER DUTIES:

EEG Related

Echoencephalograms
Culling EEG records
Surgical monitoring
Statistical reports

Non EEG Related

Pulmonary function tests
Pharmacy supplies
Blood gas analysis
Prepare time cards

APPENDIX F (Cont'd)

EEG Related	Non EEG Related
Pharyngeal studies	Assist in EKG lab.
Sphenoidal studies	Assist in Visual field test
	Payroll functions
	Safety committee
	Tilt table studies
	Projectionist for conferences
	Assist in nerve conduction examinations
	Punching IBM cards
	Hospital newspaper staff member
	Maintain electronic equipment

TEF:el
3/70
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