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TECHNICAL REPORT ON DEVELOPMENT OF USES APTITUDE TEST BATTERY  
FOR COUNSELOR, CAMP.

BUREAU OF EMPLOYMENT SECURITY (DEPT. OF LABOR)

REPORT NUMBER S-209

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PERSONNEL EVALUATION, GENERAL APTITUDE TEST BATTERY,  
CALIFORNIA, NEW YORK,

OCCUPATIONAL NORMS IN TERMS OF MINIMUM QUALIFYING SCORES  
FOR THE APTITUDE MEASURES WHICH PREDICT JOB PERFORMANCE WERE  
ESTABLISHED. THE GENERAL APTITUDE TEST BATTERY AND TWO  
CRITERION MEASURES OF SUPERVISORY RATINGS WERE TESTED ON TWO  
SAMPLES, ONE CONSISTING OF 34 MALE AND 56 FEMALE CAMP  
COUNSELORS EMPLOYED IN NEW YORK STATE SUMMER CAMPS IN 1965,  
AND THE OTHER OF 24 MALE AND 41 FEMALE CAMP COUNSELORS FROM  
FIVE SOUTHERN CALIFORNIA SUMMER CAMPS. FINAL NORMS WERE  
DERIVED ON THE BASIS OF A COMPARISON OF THE DEGREE TO WHICH  
TRIAL NORMS CONSISTING OF VARIOUS COMBINATIONS OF GENERAL  
LEARNING ABILITY, VERBAL APTITUDE, CLERICAL PERCEPTION, AND  
MOTOR COORDINATION, AT TRIAL CUTTING SCORES, WERE ABLE TO  
DIFFERENTIATE BETWEEN 66 PERCENT OF THE SAMPLE CONSIDERED TO  
BE GOOD WORKERS AND 34 PERCENT CONSIDERED TO BE POOR WORKERS.  
NORMS OF 100 FOR GENERAL LEARNING ABILITY, 95 FOR VERBAL  
APTITUDE, AND 105 FOR CLERICAL PERCEPTION PROVIDED OPTIMUM  
DIFFERENTIATION FOR THE OCCUPATION OF CAMP COUNSELOR. A  
SAMPLE RATING INSTRUMENT AND RESULTS OF THE VARIOUS  
STATISTICAL TESTS OF THE DATA ARE INCLUDED. (EM)

February 1967

United States Employment Service Technical Report

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# Development of USES Aptitude Test Battery

for

## Counselor, Camp

(profess. & kin.) 159.228

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U.S. DEPARTMENT OF LABOR  
W. Willard Wirtz, Secretary  
MANPOWER ADMINISTRATION  
BUREAU OF EMPLOYMENT SECURITY  
Washington, D.C. 20210

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**Technical Report on Development of USES Aptitude Test Battery**

**For .....**

**Counselor, Camp, (profess. & kin.), 159.228**

**S-209**

**U. S. Employment Service  
in Cooperation with  
California and New York State Employment Services**

**February 1967**

## FOREWORD

The United States Employment Service General Aptitude Test Battery (GATB) was first published in 1947. Since that time the GATB has been included in a continuing program of research to validate the tests against success in many different occupations. Because of its extensive research base the GATB has come to be recognized as the best validated multiple aptitude test battery in existence for use in vocational guidance.

The GATB consists of 12 tests which measure 9 aptitudes: General Learning Ability, Verbal Aptitude, Numerical Aptitude, Spatial Aptitude, Form Perception, Clerical Perception, Motor Coordination, Finger Dexterity, and Manual Dexterity. The aptitude scores are standard scores with 100 as the average for the general working population, with a standard deviation of 20.

Occupational norms are established in terms of minimum qualifying scores for each of the significant aptitude measures which, in combination, predict job performance. For any given occupation, cutting scores are set only for those aptitudes which contribute to the prediction of performance of the job duties of the experimental sample. It is important to recognize that another job might have the same job title but the job content might not be similar. The GATB norms described in this report are appropriate for use only for jobs with content similar to that shown in the job description included in this report.



Frank H. Cassell, Director  
U. S. Employment Service

February 1967

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FACT SHEET

(Validation Sample)

Job Title: Counselor, Camp (profess. & kin.) 159.228

Job Summary: Lives with a group of children or youths in a tent or cabin unit at a vacation camp; supervises the daily living routine and housekeeping chores of the group. Plans, organizes, and directs recreational activities and camp projects; teaches camping skills, crafts, games and sports. Prepares reports on participation and progress of individual campers; evaluates total camp program; maintains supply and equipment inventories.

Work Performed: Gives orientation to new campers: Greets campers on arrival; assigns each individual to sleeping quarters; helps each camper to unpack and store belongings. Takes custody of perishable, unauthorized or valuable articles. Gives instructions to group on general camp routine, safety rules, and use of camp facilities.

Directs the daily routine of the unit: Instructs each camper in bedmaking, cleaning of cabin or tent, and other housekeeping chores for which the campers are responsible. Encourages neatness and good housekeeping by impressing on campers proper storage of clothing and personal belongings and proper use of trash containers and cleaning equipment. Sets up a rotating task list and a schedule of individual assignments distributed equitably among the group. Assists any camper who needs help in performing assigned tasks. Escorts group to dining hall for meals; serves food and makes sure that each camper is adequately fed; instructs campers in after-meal clean up according to camp custom, and sees that individual work assignments are carried out. Gives individual supervision to each camper during periods when no group activities are scheduled or when rest or sedentary pastimes are required. Assists campers in letter writing, personal grooming, and caring for clothing. Reads or tells stories to the group, or teaches songs and stories.

Plans and organizes activities: Leads group discussions of activities available to campers and assists the group in arranging an activity schedule which will be most suitable for their interests, their abilities, and their benefit within the social and educational purposes of the camp. Guides the planning of activities in a manner which will create an atmosphere of consideration for individual preferences and at the same time teach the advantages of the democratic process in making decisions for the group. Encourages each camper's participation in group discussions by drawing out those who are shy or inarticulate, and helps individuals to develop leadership qualities by teaching techniques or discussion leading.

Directs the group in program activity: Evaluates the proposed activity in terms of skills required, time available, equipment and supplies needed, and preliminary preparation which will be required for participation of each individual in the group. Gives instruction to the group on how to plan the activity, how to prepare

for the activity, and teaches them the skills that will be needed. Escorts the group and participates in the activity to the extent necessary to maintain a high level of enthusiasm and to promote maximum participation by each camper. Coordinates schedule of activities with other groups in the camp by consultation with camp director, unit leaders, and other camp counselors.

Guides campers in their adjustment to camping routine and group living: Secures acceptance and respect of campers by constantly setting proper example of decorum and by creating an atmosphere of friendliness and warmth. Listens with sympathetic interest to their ideas, suggestions, and apprehensions, and encourages each camper to participate in a wide variety of activities. Continuously observes campers for manifestations of homesickness, physical illness, undue fatigue, or emotional upsets. Takes immediate remedial action to alleviate problems which might upset the group, by creating diversions for campers with adjustment problems, obtaining medical attention for those who are ill, and enforcing disciplinary rules. Refers unusual or difficult problems to the supervisor, and may recommend the removal of a camper who is excessively disruptive.

Assists in planning and evaluation of total camp program: Participates in planning discussions with camp director and other counselors. Makes suggestions for changes in program based on observation of campers' reactions and on knowledge of the basic aims of the camp. Prepares reports for the camp director and for parents on individual campers and their adjustment to the camping experience. Records list of supplies and equipment received at beginning of season, maintains inventory of supplies used and replaced, and prepares inventory of supplies and equipment turned in at end of season.

(This sheet is printed in duplicate. One copy should remain as part of the Appendix in order to complete the technical report. The other copy can be removed by employment service personnel who wish to set up separate fact sheet files.)

TABLE 2

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education and Experience

	Mean	SD	Range	r
Age (years)	19.2	1.3	17-25	.097
Education (years)	13.1	.9	11-15	.117
Experience (months)	13.9	11.0	6-54	.276*

\*Significant at the .05 level

#### EXPERIMENTAL TEST BATTERY

All twelve tests of the GATB were administered to the validation sample during the period June 19 through June 27, 1960.

#### CRITERION

The criterion data consisted of supervisory ratings made by first and second-line supervisors independently on a descriptive rating scale.

**Rating Scale:** The descriptive rating scale (see Appendix) consisted of seven items covering different aspects of job performance. Each item has five alternatives corresponding to different degrees of job proficiency.

**Reliability:** The correlation between the two sets of ratings is .55 indicating that to some extent they are ratings of different factors. The final criterion consisted of the ratings obtained by the second-line supervisor since he was thoroughly familiar with the job performance of the workers and is a more mature and experienced rater than the first-line supervisor.

**Criterion Score Distribution:**

Possible Range:	7-35
Actual Range:	15-35
Mean:	27.5
Standard Deviation:	5.0

**Criterion Dichotomy:** The criterion distribution was dichotomized into low and high groups by placing 34% of the sample in the low group to correspond with the percentage of workers considered unsatisfactory or marginal. Workers in the high criterion group were considered "good workers" and those in the low group "poor workers." The critical score is 25.

### APTITUDES CONSIDERED FOR INCLUSION IN THE NORMS

Aptitudes were selected for tryout in the norms on the basis of a qualitative analysis of job duties involved and a statistical analysis of test and criterion data. Aptitude V which does not have a high correlation with the criterion was considered for inclusion in the norms because the qualitative analysis indicated it was important for the job duties and it had a relatively low standard deviation. Aptitude K was considered for inclusion in the norms because it had a relatively high mean score and a relatively low standard deviation. A relatively high mean score or a relatively low standard deviation may indicate that some sample preselection may have taken place.

TABLE 3

#### Qualitative Analysis

(Based on the job description, the following aptitudes appear to be important to the work performed)

#### Aptitude

#### G - General Learning Ability

To learn the necessary techniques of supervising groups of children effective methods of guidance and teaching, and basic psychology of child behavior, with a minimum of instruction; to make independent decisions of judgment in handling emergencies and behavioral problems; to recognize symptoms leading to problem situations and determine remedial action needed.

#### V - Verbal Aptitude

To communicate information and ideas in the formal teaching situation and to influence behavior in the informal group living situation; to write narrative reports.

#### Q - Clerical Perception

To keep a record of activities of individual campers; to prepare task lists, schedule assignments, and inventory records



TABLE 4

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB

Aptitude	Mean	SD	Range	r
G - General Learning Ability	112.5	14.6	83-142	.300*
V - Verbal Aptitude	111.4	13.0	80-151	.211
N - Numerical Aptitude	107.4	15.7	77-145	.240
S - Spatial Aptitude	111.1	17.3	68-153	.171
P - Form Perception	114.3	16.1	73-150	.205
Q - Clerical Perception	114.2	13.9	80-172	.273*
K - Motor Coordination	112.3	14.5	74-148	.111
F - Finger Dexterity	104.4	16.9	51-138	.044
M - Manual Dexterity	111.7	19.5	68-165	.237

\*Significant at  $\alpha = .05$  level

TABLE 5

Summary of Qualitative and Quantitative Data

Type of Evidence	Aptitudes								
	G	V	N	S	P	Q	K	F	M
Job Analysis Data									
Important	X	X				X			
Irrelevant									
Relatively High Mean	X				X	X	X		
Relatively Low Standard Dev.	X	X				X	X		
Significant Correlation with Criterion	X					X			
Aptitudes to be Considered for Trial Norms	G	V				Q	K		

DERIVATION AND VALIDITY OF NORMS

Final norms were derived on the basis of a comparison of the degree to which trial norms consisting of various combinations of Aptitudes G, V, Q, and K at trial cutting scores were able to differentiate between the 66% of the sample considered good workers and the 34% of the sample considered poor workers. Trial cutting scores at five point intervals approximately one standard deviation below the mean are tried because this will eliminate

about one-third of the sample with three-aptitude norms. For two aptitude norms, minimum cutting scores slightly higher than one standard deviation below the mean will eliminate about one third of the sample; for four aptitude trial norms, cutting scores slightly lower than one standard deviation below the mean will eliminate about one-third of the sample. The Phi Coefficient was used as a basis for comparing trial norms. Norms of G-100, V-95, and Q-105 provided optimum differentiation for the occupation of Counselor, Camp (profess. & kin.) 159.228. The validity of these norms is shown in Table 6 and is indicated by a Phi Coefficient of .31 (statistically significant at the .01 level).

TABLE 6  
Concurrent Validity of Test Norms,  
G-100, V-95, and Q-105

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Workers	10	33	43
Poor Workers	12	10	22
Total	22	43	65

Phi Coefficient ( $\phi$ ) = .31  
Significance Level =  $P/2 < .01$

Chi Square ( $X^2$ ) = 6.4

DETERMINATION OF OCCUPATIONAL APTITUDE PATTERN

The data for this study met the requirements for incorporating the occupation studied into OAP-13 which is shown in Section II of the Manual for the General Aptitude Test Battery. The OAP-13 norms of G-90, V-90, Q-100 yield a Phi Coefficient of .25 ( $P/2 < .025$ ).

GATB Study # 2584

S-209

Counselor, Camp (profess. & kin.) 159.228

Check Study # 1 Research Summary

Sample:

90 workers (34 male and 56 female) employed in ten summer camps in New York State in 1965

TABLE 7

Means, Standard Deviations (SD), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education, Experience, and the Aptitudes of the GATB; Cross-Validation Sample #1

	Mean		SD		Range	r	
	M	F	M	F		M	F
Age (years)	20.9	19.8	2.4	1.9	16-31	.169	.163
Education (years)	14.5	13.7	1.3	1.4	11-17	.232	.101
Experience (months)	4.5	3.3	13.1	8.7	4-48	.216	.172
G - General Learning Ability	123.0	117.4	12.4	15.7	84-151	.228	.256
V - Verbal Aptitude	123.6	120.9	16.0	14.5	82-156	.074	.172
N - Numerical Aptitude	117.4	113.2	14.8	15.3	73-151	.188	.202
S - Spatial Aptitude	112.9	110.2	20.6	21.6	61-169	.080	.245
P - Form Perception	111.3	120.8	13.1	16.4	84-158	.372*	.101
Q - Clerical Perception	117.5	122.5	13.1	13.2	93-160	0	.051
K - Motor Coordination	113.7	115.7	13.0	17.0	72-184	.120	.244
F - Finger Dexterity	98.4	109.7	17.7	17.7	58-136	-.018	-.050
M - Manual Dexterity	103.2	103.5	21.0	22.8	47-148	.061	.010

Criterion:

Supervisory ratings (criterion 1), similar to those shown in the Appendix and a "rehire/not rehire" recommendation made by the camp director (criterion 2).

Criterion Reliability:

The correlation obtained between supervisory ratings made independently by the Director and the Head Counselor was .78 (N=83) indicating satisfactory reliability. Since only one rating was obtained for the "rehire/not rehire" recommendation made by the Director, no measure of reliability is available. A correlation of .65 was obtained between averaged supervisory ratings and the "rehire/not rehire" recommendation.

Design:

Concurrent (test and criterion data were collected at approximately the same time).

Principal Activities:

The job duties for each worker are comparable to those of the validation sample.

Concurrent Validity:

Criterion 1-Phi Coefficient = .31 (P/2 < .005) with supervisory ratings  
 Criterion 2-Phi Coefficient = .19 (P/2 < .05) with rehire/not rehire recommendation.

Effectiveness of Norms:

Considering supervisory ratings only 67% of the non-test-selected workers used for this study were considered good workers; if the workers had been test-selected with the S-209 norms 75% would have been good workers. 33% of the non-test-selected workers used for this study were poor workers; if the workers had been test-selected with the S-209 norms, only 25% would have been poor workers. The effectiveness of the norms when applied to this independent sample is shown graphically in Table 8.

TABLE 8

Effectiveness of Norms

	Without Tests	With Tests
Good Workers	67%	75%
Poor Workers	33%	25%

TABLE 9a

Concurrent Validity of Test Norms  
 (G-100, V-95, Q-105) with Supervisory Rating Criterion  
 Check Study Sample #1 (New York)

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Workers	8	50	58
Poor Workers	12	17	29
Total	20	67	87

Phi Coefficient ( $\phi$ ) = .31  
 Significance Level = P/2 < .005

Chi Square ( $X^2$ ) = 8.3

TABLE 9b

Concurrent Validity of Test Norms  
 (G-100, V-95, Q-105) with "Rehire/not Rehire" Criterion  
 Check Study Sample #1 (New York)

	Nonqualifying Test Scores	Qualifying Test Scores	Total
Good Workers	14	58	72
Poor Workers	6	9	15
Total	20	67	87

Phi Coefficient ( $\phi$ ) = .18  
 Significance Level = P/2 < .005

Chi Square ( $X^2$ ) = 3.0

A-P-P-E-N-D-I-X

DESCRIPTIVE RATING SCALE

Person to be rated



HOW QUICKLY DID HE LEARN THE JOB DUTIES AND NEW TASKS OR OPERATIONS? (Worker's ability to learn rapidly the work he has to do.)

- ( ) Learned very slowly. Needed careful and repeated instructions.
- ( ) Somewhat slower than most in learning the job and in grasping new phases of his job.
- ( ) Learned most things about his job in the usual amount of time.
- ( ) Caught on quickly to most of the job duties he had to learn.
- ( ) Learned rapidly. Needed only the minimum amount of training or instructions for even the difficult job duties.

HOW MUCH DOES HE KNOW ABOUT HIS JOB? (Worker's understanding of the principles, equipment, materials and methods that have to do directly or indirectly with his work.)

- ( ) Has very limited knowledge. Does not know enough to do his job adequately.
- ( ) Has little knowledge. Knows enough to "get by."
- ( ) Has moderate amount of knowledge. Knows enough to do fair work.
- ( ) Has broad knowledge. Knows enough to do good work.
- ( ) Has almost complete knowledge. Knows enough to do outstanding work.

HOW MUCH APTITUDE OR FACILITY DOES HE HAVE FOR THIS KIND OF WORK? (Worker's adeptness or knack for performing his job easily and well.)

- ( ) Very low aptitude. Has great difficulty doing his job. Not at all suited to this kind of work.
- ( ) Low aptitude. Usually has some difficulty doing his job. Not too well suited to this kind of work.
- ( ) Moderate aptitude. Does his job without too much difficulty. Fairly well suited to this kind of work.
- ( ) High aptitude. Usually does his job without difficulty. Well suited to this kind of work.
- ( ) Very high aptitude. Does his job with great ease. Unusually well suited for this kind of work.

HOW RESOURCEFUL IS HE WHEN SOMETHING DIFFERENT COMES UP OR SOMETHING OUT OF THE ORDINARY OCCURS? (Worker's ability to apply what he already knows to a new situation.)

- ( ) Very unresourceful. Almost never is able to figure out what to do. Needs help on even minor problems.
- ( ) Unresourceful. Often has difficulty handling new situations. Needs help on all but simple problems.
- ( ) Fairly resourceful. Sometimes knows what to do, sometimes doesn't. Deals with most problems that are not too complex.
- ( ) Resourceful. Usually handles new situations. Needs help on only complex problems.
- ( ) Very resourceful. Practically always figures out what to do himself. Rarely needs help, even on complex problems.

HOW WELL AND ACCURATELY DOES HE COMMUNICATE WITH OTHERS? (Worker's ability to understand and give instructions or to ask and answer appropriate questions in discussion of his work with co-workers or supervisor.)

- ( ) Has a good deal more difficulty than most in maintaining clear communication with others.
- ( ) Has a little trouble along this line. Sometimes is confused, or confuses others.
- ( ) Satisfactory. Usually gives and takes information fairly accurately.
- ( ) Better than average. Seldom gets mixed up.
- ( ) Excels in understanding and making himself understood.

HOW OFTEN DOES HE MAKE PRACTICAL SUGGESTIONS FOR DOING THINGS IN BETTER WAYS? (Worker's ability to improve work methods.)

- ( ) Never. Sticks strictly with routine. Contributes nothing in the way of practical suggestions.
- ( ) Very seldom. Slow to see new ways to improve methods. Contributes few practical suggestions.
- ( ) Once in a while. Neither quick nor slow to see new ways to improve methods. Contributes some practical suggestions.
- ( ) Frequently. Quick to see new ways to improve methods. Contributes more than his share of practical suggestions.
- ( ) Very often. Extremely alert to see new ways to improve methods. Contributes an unusually large number of practical suggestions.

CONSIDERING ALL THE FACTORS ALREADY RATED, AND ONLY THESE FACTORS, HOW SATISFACTORY IS HIS WORK? (Worker's "all-around" ability to do his job.)

- ( ) Definitely unsatisfactory. Would be better off without him. Performance usually not acceptable.
- ( ) Not completely satisfactory. Of limited value to the organization. Performance somewhat inferior.
- ( ) Satisfactory. A fairly proficient worker. Performance generally acceptable.
- ( ) Very good. A valuable worker. Performance usually better than average.
- ( ) Outstanding. An unusually competent worker. Performance almost always top notch.

Rated by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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FACT SHEET

(Validation Sample)

Job Title: Counselor, Camp (profess. & kin.) 159.228

Job Summary: Lives with a group of children or youths in a tent or cabin unit at a vacation camp; supervises the daily living routine and housekeeping chores of the group. Plans, organizes, and directs recreational activities and camp projects; teaches camping skills, crafts, games and sports. Prepares reports on participation and progress of individual campers; evaluates total camp program; maintains supply and equipment inventories.

Work Performed: Gives orientation to new campers; Greet campers on arrival; assigns each individual to sleeping quarters; helps each camper to unpack and store belongings. Takes custody of perishable, unauthorized or valuable articles. Gives instructions to group on general camp routine, safety rules, and use of camp facilities.

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Plans and organizes activities: Leads group discussions of activities available to campers and assists the group in arranging an activity schedule which will be most suitable for their interests, their abilities, and their benefit within the social and educational purposes of the camp. Guides the planning of activities in a manner which will create an atmosphere of consideration for individual preferences and at the same time teach the advantages of the democratic process in making decisions for the group. Encourages each camper's participation in group discussions by drawing out those who are shy or inarticulate, and helps individuals to develop leadership qualities by teaching techniques or discussion leading.

Directs the group in program activity: Evaluates the proposed activity in terms of skills required, time available, equipment and supplies needed, and preliminary preparation which will be required for participation of each individual in the group. Gives instruction to the group on how to plan the activity, how to prepare



for the activity, and teaches them the skills that will be needed. Escorts the group and participates in the activity to the extent necessary to maintain a high level of enthusiasm and to promote maximum participation by each camper. Coordinates schedule of activities with other groups in the camp by consultation with camp director, unit leaders, and other camp counselors.

Guides campers in their adjustment to camping routine and group living: Secures acceptance and respect of campers by constantly setting proper example of decorum and by creating an atmosphere of friendliness and warmth. Listens with sympathetic interest to their ideas, suggestions, and apprehensions, and encourages each camper to participate in a wide variety of activities. Continuously observes campers for manifestations of homesickness, physical illness, undue fatigue, or emotional upsets. Takes immediate remedial action to alleviate problems which might upset the group, by creating diversions for campers with adjustment problems, obtaining medical attention for those who are ill, and enforcing disciplinary rules. Refers unusual or difficult problems to the supervisor, and may recommend the removal of a camper who is excessively disruptive.

Assists in planning and evaluation of total camp program: Participates in planning discussions with camp director and other counselors. Makes suggestions for changes in program based on observation of campers' reactions and on knowledge of the basic aims of the camp. Prepares reports for the camp director and for parents on individual campers and their adjustment to the camping experience. Records list of supplies and equipment received at beginning of season, maintains inventory of supplies used and replaced, and prepares inventory of supplies and equipment turned in at end of season.

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**DEVELOPMENT OF USES APTITUDE TEST BATTERY**

**For**

**Counselor, Camp (profess. & kin.) 159.228**

**S-209**

This report describes research undertaken for the purpose of developing General Aptitude Test Battery (GATB) norms for the occupation of Counselor, Camp (profess. & kin.) 159.228. The following norms were established:

GATB Aptitude	Minimum Acceptable GATB Scores
G - General Learning Ability	100
V - Verbal Aptitude	95
Q - Clerical Perception	105

**RESEARCH SUMMARY - VALIDATION SAMPLE**

**Sample:**

65 Camp Counselors (41 female and 24 male) employed in five summer camps in Southern California.

**Criterion:**

Supervisory ratings

**Design:**

Concurrent (test and criterion data were collected at approximately the same time).

Minimum aptitude requirements were determined on the basis of a job analysis and statistical analyses of aptitude mean scores, standard deviations, aptitude-criterion correlations, and selective efficiencies.

**Concurrent Validity:**

Phi Coefficient = .31 ( $P/2 < .01$ )

**Effectiveness of Norms:**

Only 66% of the non-test-selected employees used for this study were good employees; if the employees had been test-selected with the S-209 norms, 77% would have been good employees. 34% of the non-test-selected employ-

ees used for this study were poor employees; if the employees had been test-selected with the S-209 norms, only 23% would have been poor trainees. The effectiveness of the norms is shown graphically in Table 1:

TABLE 1

Effectiveness of Norms

	Without Tests	With Tests
Good Employees	66%	77%
Poor Employees	34%	23%

VALIDATION SAMPLE DESCRIPTION

Size: N = 65

Occupational Status: Employees

Work Setting: Five member camps of the Southern California Camping Association.

Selection Requirements:

Age: 18 years

Education: One-year of college preferred.

Previous Experience: Younger applicants with some camping experience and leadership abilities are considered.

Tests: None

Other: Written application and personal interview.

Principal Activities: The job duties for each worker are shown in the job description in the appendix.

Minimum Experience: All workers took a formal training course of from three days to one week and some training sessions continued during the camping season. All workers in the sample were experienced.