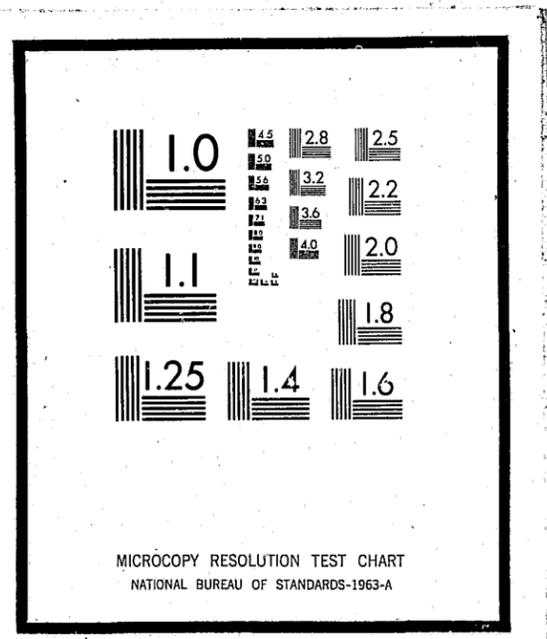


# NCJRS

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U.S. Department of Justice.

U.S. DEPARTMENT OF JUSTICE  
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION  
NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE  
WASHINGTON, D.C. 20531

Date filmed

9/2/75

4

A Study of  
Educational Needs & Competencies for  
Institutionalized Juvenile Delinquents

165410

Bonnie Helzer, M.Ed.  
Classroom teacher of  
Juvenile Delinquents

George J. Yard, Ph.D.  
Programs for Behavior  
Disordered Children  
University of Mo.-St. Louis

## ABSTRACT

In order to facilitate the formulation of educational objectives for institutionalized juvenile delinquents, the California Achievement Test scores of 60 juvenile delinquents (30 Neurotic and 30 Psychopathic) were statistically analyzed.

No significant differences in total achievement were found between the two types of delinquents. The 16-year-olds were significantly further behind their expected achievement level than the two younger groups. T-tests computed between the two groups within each subtest area indicated that the neurotic delinquents were significantly higher than the psychopathic delinquents in all academic areas except math. No significant interaction between groups and tests was noted in a repeated measurements design. Significant differences between different academic areas were found in the two groups combined. From lowest to highest achievement, the measured areas were: 1) Math Computation, 2) English Usage, 3) English Mechanics, 4) Spelling, 5) Reading Comprehension, 6) Math Concepts & Problems, and 7) Reading Vocabulary.

Research has consistently indicated that juvenile delinquents are academically retarded as compared to their non-delinquent peers (Burke & Simmons, 1956; Miller, 1959). The purpose of this study was to further research in the field by answering the following specific questions: 1) Are chronological age and type of delinquent related to total academic achievement as measured by the California Achievement Test (CAT)? 2) Do Neurotic-Disturbed delinquents have certain academic strengths and or weaknesses which are different than those of Unsocialized-Psychopathic delinquents? and, 3) Are there identifiable strengths and weaknesses within the combined neurotic and psychopathic groups?

Although previous studies have indicated that, compared to neurotics, psychopaths do less well on tasks requiring continuous attention (Orris, 1969), show a greater preference for complex and novel stimuli (Quay, 1965), and are less conditionable with the use of verbal reinforcement (Johns & Quay, 1962; Quay & Hunt, 1965), it was not felt that these findings warranted making any directional hypothesis. Of more direct relevance to this study is the finding (Quay & Parson, 1971) that there is a small but significant negative relationship between both achievement and Otis IQ and one of the three diagnostic

instruments for psychopathy, whereas the same relationship does not exist between achievement and IQ and the same diagnostic instrument--the Personal Opinion Study--for neuroticism. Since the relationship was small, and since the Personal Opinion Study is only one of the three diagnostic instruments used to classify delinquents, no hypotheses were made on the basis of this finding.

## PROCEDURE

### Sample and Measures

Over a period of eight months approximately 110 male residents of a juvenile detention center were differentially classified as being Inadequate-Immature, Neurotic-Disturbed, Unsocialized-Psychopathic, or Socialized-Subcultural. The differential classification was determined by the Quay Instruments--the Behavior Problem Checklist, the Checklist for the Analysis of Life History Data, and a Personal Opinion Study. The CAT Level 3 was administered untimed to the same residents. Ten, eleven, and twelve-year-old boys and a few older boys whose scores were obviously invalid were excluded from the study. Of the 90 potential Ss who remained--5 Inadequate-Immature, 34 Neurotic-Disturbed, 32 Unsocialized-Psychopathic, and 19 Socialized-Subcultural--this study was limited to the neurotic and psychopathic offenders due to their greater numbers. Six of these were randomly omitted from the two-way analysis of variance and ten from the T-tests and repeated measurements design in order to match the two groups for age.

### Methods of Analysis

A two-way analysis of variance using difference scores determined the effects of age and type of delinquent on total achievement. Thirty neurotic and thirty psychopathic offenders were divided into three equal groups on the basis of age. Three 13-year-olds were combined with seven 14-year-olds in each group to match against ten 15-year-olds and ten 16-year-olds (N=60).

Age-based grade expectancies were then computed on all Ss, i.e., a S who was 14 on or before the end of September was assigned a grade expectancy of 9.0. The expectancies were then subtracted from the actual grade-placement scores achieved by each S on the total battery of the CAT, and the differences analyzed for significance.

The second question--do Neurotic-Disturbed delinquents have certain academic strengths and weaknesses which are different than those of Unsocialized-Psychopathic delinquents?--was answered by converting all grade placement scores to T-scores and computing independent means T-tests between the two groups within each of the CAT subtest areas (N=56).

To determine whether or not there were identifiable academic strengths and weaknesses within the two groups combined, a repeated measurements design, also termed the Nester design, was used to obtain F-scores for the difference between groups, between tests, and for the interaction between groups and tests. Seven T-scores from each of the 56 Ss yielded a total N of 392.

RESULTS

Results of the two-way analysis of variance using difference scores are reported in Table 1.

TABLE 1

Analysis of Variance for Neurotic (N=30) and Psychopathic (N=30) Juvenile Offenders

SOURCE	SUM OF SQUARES	df	MEAN SQUARE	F-RATIO
Age	53.97	2	22.99	5.76*
Type	4.93	1	4.93	1.05
Age X Type	5.60	2	2.80	.60
Within	252.83	54	4.68	
Total	317.32	59		

\*p < .01  
eta=.46

Type of delinquent was not a significant factor in the degree of academic retardation of the Ss, nor was there any significant interaction between age

and type of delinquent. However, age was found to be a significant factor in the degree of overall academic retardation (p < .01). Whereas the 13 and 14-year-olds were 25 months behind, the 16-year-olds were 52 months behind. The eta score of .46 indicates a moderate correlation. As a further test of significance, Duncan's Multiple Range Test was applied. Although there was no significant difference between the 15-year-olds and the 13 and 14-year-olds, there was a significant difference between the 16-year-olds and the two other groups (p < .05) as indicated in Table 2.

TABLE 2

Duncan's Multiple Range Test for Significance of Differences Between Three Reference Groups

Age	Mean Yrs. of Retardation	Difference Between Age Groups		
		13.7 yrs.	15.0 yrs.	16.0 yrs.
13.7	2.085	---	.805	2.290**
15.0	2.890			1.485 *
16.0	4.375			---

\*p < .05

\*\*p < .01

Table 3 reports the t-values between groups within each academic area.

TABLE 3

Results of Independent Means t-tests Favoring Neurotic Over Psychopathic Juvenile Delinquents

CAT Subtest	Eng. Usage	Eng. Mech.	Spell.	Read. Vocab.	Read. Comp.	Math Comp.	Math Con. & Prob.
t=	7.500	6.050	4.210	2.74	2.77	.99	.42
p	.001	.001	.001	.01	.01	NS	NS
Rpbi	.350	.320	.270	.220	.22	--	--

\*Favoring Psychopathic Delinquents

In five of the seven measured areas, the neurotic delinquents were significantly superior. Spelling, English Usage, and English Mechanics all reached the .001 level of confidence while Reading Vocabulary and Reading Comprehension were significant at the .01 level of confidence. There were no significant differences between the achievement of the two groups in Math Computation or Math Concepts and Problems.

Results of the Repeated Measurements Design are as reported in Table 4.

TABLE 4

Repeated Measurements Design for Neurotic (N=28) and Psychopathic (N=28) Delinquents

SOURCE	SUM OF SQS.	df	MEAN SQUARE	F-RATIO
Between Gps.	517.52	1	517.52	.93
Ss Within Gps.	30,122.67	54	557.83	--
Between Tests	2,166.99	6	361.17	9.77*
Tests x Gps.	334.69	6	55.78	1.51
Tests x Gps x Ss	11,971.63	324	36.95	--
Total	45,113.50	391		

\*p < .001  
eta=.39

The F-ratios for between groups and for the interaction between tests and groups were not significant, but the F-ratio for between tests was significant (p < .001). As before, Duncan's Multiple Range Test was applied with the results as recorded in Table 5.

TABLE 5

Duncan's Multiple Range Test for Significance of Differences Between Seven Subtest Areas

MEANS	Math Compu.	Eng. Usage	Eng. Mech.	Spell.	Read. Comp.	Math Cps. & Prob.	Read. Vocab.
48.20	48.20	48.71	49.64	51.07	52.18	54.14	54.16
48.71		.51	1.44	2.87*	3.98**	5.94**	6.46**
49.64			.93	2.36*	3.47**	5.43**	5.95**
51.07				1.43	2.52*	4.50**	5.02**
52.18					1.11	3.07**	3.59**
54.14						1.97	2.48*
54.16							.52

\* p < .05  
\*\*p < .01

At the .05 level of confidence, Reading Comprehension, Math Concepts and Problems and Reading Vocabulary were all significantly superior to Math Computation, English Mechanics, and English Usage. With one exception (English Mechanics, although at Range 3, is not significantly superior to Math Computation) every subtest  $\bar{X}$  was significantly different from every other subtest  $\bar{X}$  at Ranges 3 through 7 (p < .05).

DISCUSSION

In answer to the first question of this study, there was no correlation between type of delinquent and over-all academic retardation and no interaction between age and type of delinquent. But there was a positive correlation between age and degree of academic retardation. It is possible that the less intelligent delinquents continued to be apprehended up to the legal age of adulthood (17) whereas the more intelligent either learned how to escape detection or were successfully reintegrated into school and society at an earlier age. A more likely explanation, however, is that the older delinquents have experienced a greater number of previous detentions, and therefore more interruptions in their school programs. As case studies tend to suggest, many

of the older delinquents had been totally out of school for one or two years. This lack of regular school attendance may have produced a degree of academic retardation which increased with age.

In response to the second question, there were significant differences between the two groups within certain academic areas. The findings of the t-tests performed in this study must be viewed with caution, as no significant difference between groups and no interaction between groups and tests was noted in the more comprehensive repeated measurements design. However, the strength of the differences observed in the three language areas of Spelling, English Mechanics, and English Usage suggests that the psychopathic delinquents are somewhat poorer in verbal ability--a finding which has also been observed in studies of psychopathic adults (Quay & Parsons, 1971).

The differences between tests noted in the repeated measurements design indicate that there are identifiable strengths and weaknesses within the two groups of neurotics and psychopathics combined (Question 3). These differences suggest content areas in special need of remediation. They also suggest that delinquents are relatively weak in areas which require rote memorization, drill, and practice for mastery. The four areas with the lowest  $\bar{X}$ 's--Math Computation, English Usage, English Mechanics, and Spelling--all represent areas in which the need for memorization and repetitive practice is evident. The three highest  $\bar{X}$ 's--Math Concepts and Problems, Reading Vocabulary, and Reading Comprehension--represent content areas in which less long-term memory and more spontaneous, convergent thinking is required. This observation may indicate that delinquents are relatively unable to function in areas which require memorization and repetitive practice. Since the lower  $\bar{X}$ 's are those which are more dependent on a formal academic setting for their development, however, the observed order of performances may also support the established

fact of this group's irregular school attendance.

An age group, a delinquent type, and content areas in particular need of remediation have been suggested. The finding that academic retardation increases with age further suggests that intervention procedures might be most successfully instituted during or before the eighth grade (age 13) when less academic retardation has taken place. At least one study (Bowman, 1959) has shown that a modified school curriculum begun with eighth grade delinquents and semi-delinquents can significantly reduce the number of delinquent acts subsequently committed. Few academic demands were placed on the Ss of the experimental groups in this study, so there were no significant differences observed between the achievement of the control and the experimental groups. It is to be hoped that with increased insight into the intellectual functioning of this group of juveniles, it will become possible to effect changes in behavior along with improved academic performance.

#### REFERENCES

- Bowman, P. H. Effects of a revised school program on potential delinquents. Ann. Amer. Acad. polit. soc. Sci., 1959, 322, 53-61
- Burke, N. S., & Simons, A.E. Factors which precipitate dropouts and delinquency. Fed. Probation, 1965, 29, 28-32.
- Johns, J.H. & Quay, H.C., The effect of social reward on verbal conditioning in psychopathic and neurotic military offenders. Journal of Consulting Psychology, 1962, 26, 217-220.
- Miller, W. Lower Class culture as a generating milieu of gang delinquency. J. soc. Issues, 1959, 14, 5-19.
- Orris, J.B., Visual Monitoring Performance in Three Sub-groups of Male Delinquents. Journal of Abnormal Psychology, 1969, 74, 227-227.
- Quay, H.C., Psychopathic Personality as Pathological Stimulation-Seeking. American Journal of Psychiatry, 1965, 122, 180-183.
- Quay, H.C. & Hunt, W.A., Psychopathy, Neuroticism and Verbal Conditioning: a replication and extension. Journal of Consulting Psychology, 1965, 19, 283.
- Quay, H.C. & Parsons, L.B., The Differential Behavioral Classification of the Juvenile Offender. Robert F. Kennedy Youth Center Bureau of Prisons: United States Department of Justice, 1971.

#### AUTHOR'S VITA

George J. Yard Ph.D is Assistant Professor, Special Education, Area of The Emotionally Disturbed at the University of Missouri at St. Louis.

Ms. Bonnie Helzer M.Ed is a Graduate Student and teacher of Delinquent Children in the St. Louis Metropolitan Area.

**END**