

The Relationship between Self-reported Juvenile
Delinquency and Learning Disabilities:
A Preliminary Look at the Data

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ABSTRACT

Preliminary data are reported from a research and demonstration program investigating the link between specific learning disabilities (LD) and juvenile delinquency. A total of 1,643 12-to-16-year old boys and girls, including 645 adjudicated delinquents and 998 public school students with no official records of delinquency, were evaluated to determine whether there was evidence of LD, and interviewed concerning their self-reported delinquent behavior. The results indicate that learning disabled youngsters are more likely than non-learning disabled youngsters to be adjudicated delinquent; however, there was no clear evidence that learning disabled children engage in more delinquent behavior than those who are not learning disabled.

INTRODUCTION¹

In recent discussions concerning the causes of juvenile delinquency, considerable attention has focused on the phenomenon of specific learning disabilities (LD)² as a possible causal factor. The rationale for the hypothesized relationship between LD and juvenile delinquency (the so-called "LD/JD link") suggests that through a series of intervening events, such as school failure, learning disabled youths are more likely to become delinquent than those who are not learning disabled. In a comprehensive summary of recent research related to the LD/JD link, Murray concluded that the quantitative evidence for a link between LD and delinquency was weak, due largely to the methodological deficiencies of the previous research (1976). However, he also concluded that "the cumulation of observational data reported by professionals who work with delinquents warrants further, more systematic exploration of the learning handicaps of delinquents" (p.68).

One of the purposes of the present study is to address the question of whether or not there is a relationship between LD and juvenile delinquency. If there is such a relationship, the prevalence of learning disabilities among a sample of delinquent youngsters should be higher than the prevalence of LD among a comparable sample of nondelinquents. Murray (1976) was unable to find any studies which directly compared delinquent and nondelinquent samples with respect to the prevalence of LD, although several studies had been conducted which attempted to estimate the prevalence of LD only in delinquent samples. One of most thorough of these was conducted by the

Kingsbury Center in Washington, D. C. for the General Accounting Office (Comptroller General, 1977). This study found evidence of LD in 26% of a sample of 129 adolescent institutionalized delinquents in two states. This is higher than most estimates of LD prevalence among the general population of adolescents, but without an appropriate comparison group one may not draw any firm conclusions about differences in prevalence.³

Even if significant differences in prevalence of LD were found between samples of delinquents and samples of nondelinquents, a plausible alternative hypothesis could be suggested to account for the findings. Suppose that learning disabled youngsters, in fact, are no more likely to behave delinquently than youngsters who do not have LD, but for some reason the juvenile justice system reacts differently to these two groups of youths. It is known, for example, that behavioral difficulties, such as impulsivity and hyperactivity, commonly are associated with LD. This being the case, learning disabled youngsters may come to the attention of juvenile justice system officials more frequently, and be adjudicated delinquent more frequently, than youngsters without LD. This would be manifested in different percentages of LD children in the delinquent and nondelinquent groups.

Two approaches to juvenile delinquency were employed in the present study. On the one hand, a legal perspective defined delinquency in terms of actions taken by the juvenile justice system. This approach was necessary for an a priori assignment of youths to groups in the study.⁴ On the other hand, a behavioral perspective was employed which defined delinquency on the basis of acts which the youths,

themselves, reported they had engaged in. This perspective recognizes that juvenile delinquency really represents a broad continuum of behaviors, rather than a small number of discrete states (i.e., delinquent vs. non-delinquent).

In order to explore the hypothesis of an LD/JD link, the present study examined the frequencies of self-reported delinquent behaviors in two groups of youths: one group of children who had been adjudicated delinquent; and one group of public school children with no official record of delinquency. These children were also subdivided into those who were learning disabled and those who were not learning disabled, on the basis of our LD evaluation procedures. All children responded to the self-reported delinquency items.

The use of self-reported delinquent measures is well established in the literature. Many researchers have noted deficiencies in legal categories and classifications of delinquency for purposes of social science research. It is generally accepted that delinquent behavior occurs more frequently and is more widespread, than is reported in official records. A report issued by the Institute for Juvenile Research (Rivera, 1972) suggested that as few as two or three percent of delinquent acts may result in formal complaints or in police detection. Erickson and Empey (1963) reported that more than 95% of the delinquent acts reported by subjects in their study were not acted on by authorities. Gold (1970) reported that, on the average, the 522 participants in his study each reported nearly five acts which would have been considered delinquent, although only 80 of these offenses appeared in police records.

In addition to underestimating the volume of delinquent activity, official records do not accurately reflect the frequency of delinquent activity among various subgroups of the population. Delinquency statistics are not uniformly reported; there is no consensus as to the definition of criminality; and there are other variations from one jurisdiction to another jurisdiction. When formal juvenile court action does occur, it may involve processing various subgroups in the population differently. Thus, self-reported delinquency measures, which compensate for some of these shortcomings, were viewed as being appropriate for exploring the relationship between LD and delinquency.

METHOD

Design. The data presented in this report were collected as part of a large research and demonstration program that is investigating the relationship between LD and juvenile delinquency. The program has three major components: first, the determination of the prevalence of LD in groups of adjudicated delinquent and officially nondelinquent adolescents; second, a remedial educational program for selected groups of learning disabled adjudicated delinquents; and finally, an evaluation of the effectiveness of the remediation program. The program is being conducted in three large cities across the country, each of which has a metropolitan population of about one million. The Creighton Institute is conducting the prevalence and evaluation components of the program, and the Association for Children with Learning Disabilities is conducting the remediation program. The diagnostic services are being provided by Educational Testing Service, under a contract with the Creighton Institute. The methodology of the program will be described briefly, insofar as it pertains to the data presented in this paper.

Participants. A total of 1,643 12-to-16 year old boys and girls provided usable results for this portion of the study. Of this total, 998 were male public school students who had no official records in the juvenile courts of adjudication for delinquent behavior. They were selected to represent general cross-sections of the public school populations from which they were drawn. The remaining 645 youths in the sample all had been adjudicated as delinquents or status offenders in the jurisdictions in which they resided. Approximately 60% of this group was institutionalized in correctional facilities when the study began. The remainder were on formal probation or parole. The delinquent group included nearly all the adjudicated delinquents in each jurisdiction for whom informed consent for participation could be obtained, and who could be included in the diagnostic evaluations within the time permitted for that work.

Procedures. Each participant was evaluated to determine whether there was evidence that he or she was learning disabled. Initially, the evaluation included an examination of educational and court records. If a review of the records precluded the possibility of LD, the participant completed a 20-minute individual interview that included questions about family background, attitudes toward school, and self-reported delinquent activity. If the results of the records review did not preclude the presence of LD, the participant underwent an intensive psycho-educational diagnostic assessment that lasted between three and four hours. The assessment consisted of individual testing that measured several key aspects of ability and academic achievement, as well as the 20-minute interview. The specific diagnostic procedures have been documented elsewhere (Barrows, et al., 1977).

The self-reported delinquency measures were adapted from the prior work of the Institute for Juvenile Research (Johnstone, 1976). The 28 items in the questionnaire included behaviors varying in seriousness, from cheating on school examinations to using force to obtain money from other persons. The self-report items may be arranged conceptually into seven groups of four items each, each group representing a category of offenses. These categories included status acts, miscellaneous delinquent acts, alcohol related acts, drug related acts, automobile violations (excluding auto theft), criminal acts, and violent acts [Appendix 1]. For each of the 28 items, the participants were asked how many times they had ever engaged in the behavior, and how many times they had done so within the past year. Reported frequencies were recorded exactly as given, up to a maximum of 99.

RESULTS AND DISCUSSION

One of the questions being addressed by this research is whether any relationship exists between learning disabilities (LD) and juvenile delinquency. The preliminary results which have been compiled to date seem to indicate that learning disabled children are more likely to be adjudicated juvenile delinquents. However, our results have not yielded consistent or unambiguous evidence that learning disabled children engage in delinquent behaviors any more frequently than do non-learning disabled children.

Of the 1,643 youngsters who participated in our study, the delinquent group comprised 39% of the sample and the public school group comprised

6]%. If LD and delinquency were unrelated, one would expect these same proportions to be evidenced in both the learning disabled and non-learning disabled groups of the sample. Within our sample, however, this was not the case. [Display Table 1] Among those children judged to be learning disabled, 58% were from the juvenile delinquent sample. In the non-learning disabled group, only 32% were adjudicated delinquents. This difference is statistically significant, which leads to the conclusion that learning disabled children are more likely than others to be adjudicated delinquent. Furthermore, as Table 1 shows, this finding is fairly consistent for all the ages represented in our sample.

The next question to ask is whether learning disabled youngsters engage more frequently in delinquent behaviors than non-learning disabled youngsters. To get evidence about this, participants reported how many times they had engaged in each of 28 different delinquent behavior included in the interview guide. [Display Table 2] The top portion of Table 2 shows the average frequency of reported acts per child for the public school and delinquent samples. Although the learning disabled children in each group report a slightly higher level of delinquent behavior than the non-learning disabled children do, the difference is not significant statistically.

The next section of Table 2 shows the same data, except that the means are geometric means rather than arithmetic means. The geometric mean is used to decrease the spurious effects of extreme scores. So, if you believed that children reporting very high frequencies of delinquent acts might be exaggerating, or simply should not be allowed to influence

the mean values so heavily, then the geometric mean would be a more appropriate statistic. The geometric mean is calculated by taking the average of the data when they are expressed as logarithms, using the formula

$$\text{Log transform} = \text{LOG}_{10} (\text{Raw Frequency} + 1).$$

When the geometric means are used, the absolute values of the reported frequencies are greatly reduced, as expected. The learning disabled children still appear to have a slightly higher average level of delinquent behavior, but the differences between them and the non-learning disabled children still do not reach statistical significance.

Finally, we can look at the children who report any delinquent acts in any of the categories of delinquent behavior. Essentially, this is comparable to dividing the sample into two groups for each category of behavior: those who report engaging in the behavior; and those who do not. The bottom section of Table 2 shows the average number of categories in which children reported any activity. Recall that our scale was composed of seven categories of four items each. Thus, a youth could report behaviors in zero to seven of the categories. Using this approach, learning disabled children reported engaging in slightly more categories of behavior than non-learning disabled children, but the differences again fail to be significant statistically.

[Display Table 3] Table 3 shows these comparisons separately for each of the seven response categories. Notice that learning disabled youngsters reported slightly higher levels of delinquency than non-learning disabled youngsters in all seven categories, regardless of whether arithmetic or geometric means are considered. Once again, though, none of these differences is statistically significant.

Finally, note the last column of figures in Table 3. These are the percentages of children who reported engaging in any act within each category. In every case, the percentage of learning disabled children who engaged in delinquent acts is greater than the percentage of non-learning disabled children. Moreover, the differences between LD and non-LD in the last four categories range from 7% to 17% and are statistically significant.

Up to this point, the data suggest that learning disabled children are more likely to be adjudicated delinquent than non-learning disabled children. However, there is no clear and consistent statistical evidence that learning disabled youths engage in delinquent behavior more frequently, or that proportionately more learning disabled youth engage in such behaviors, than non-learning disabled youths. Since it is generally believed that adolescents are more likely to become delinquent as they age from 12 to 16, however, it may be informative to look at self-reported delinquent behavior as a function of age.

[Display Figure 1] This figure shows the relationship between self-reported delinquent behavior and age, for learning disabled and non-learning disabled children within the public school and delinquent groups. The lines are best-fit straight lines drawn through the scatterplot of points for each group, using the "least squares" solution. Notice that the functions immediately confirm our common-sense expectations: adjudicated delinquents report more delinquent activity than do public school children; and reported delinquent activity increases with age. However, notice also that the functions are steeper for learning disabled

children. This suggests that learning disabled children may become involved in delinquent acts at a later age than non-learning disabled children, but that the frequency of delinquent behavior for learning disabled children increases more rapidly as they grow older. This conclusion is not strongly supported, however, because the slope coefficients of the LD curves are not statistically different from those of the non-LD curves.

[Display Table 4] The relationship between delinquent acts and age is expressed in Table 4 as a correlation for each of the four groups. All four of these correlations are statistically significant, confirming the hypothesis that delinquent behavior increases with age. In both the public school and delinquent samples, the correlations between age and delinquent behavior are higher for learning disabled children than for non-learning disabled. The difference is statistically significant in the public school sample, but not in the delinquent sample.

[Display Figure 2] Figure 2 shows the same relationship when the number of offense categories in which children report any behavior is considered. Once again, self-reported delinquency is a direct function of age, and is greater for adjudicated delinquents. The increase in delinquent activity results in a steeper function for learning disabled children than for non-learning disabled children, but the difference between the slopes of the functions is not significant. The correlations between age and self-reported delinquency are slightly lower for these data than those for the data in Figure 1. All the correlations are statistically significant, showing that delinquency is correlated with

age, but there are no significant differences in the correlations for learning disabled and non-learning disabled children.

Finally, consider how the likelihood of adjudication is related to self-reported delinquent behaviors. We would expect that the proportion of the sample that has been adjudicated would increase as the frequency of self-reported delinquency increases. But, is the relationship the same for learning disabled and non-learning disabled children? For example, if learning disabled children are treated differently by

the juvenile justice system, we might expect to find relatively more adjudication of learning disabled children at lower levels of self-reported delinquency.

To do this analysis, the entire sample of children was divided into fifths, based upon the frequencies of self-reported delinquency.

[Display Figure 3] The five groups are represented along the baseline of the graph in Figure 3. Each successive fifth of the group reported increased delinquent behavior, based on all 28 offense items.

Learning disabled and non-learning disabled children were identified within each fifth of the sample, and the proportions of those who are adjudicated delinquents have been plotted.

As you can see, the proportion of children who are adjudicated delinquents increases with increasing frequencies of self-reported delinquent behavior. Furthermore, learning disabled children have a greater proportional representation at all levels in the adjudicated delinquent group, and this greater representation is about the same across all levels of

delinquent involvement. This tends to support the general conclusion that learning disabled youngsters are more likely to become adjudicated as juvenile delinquents, and that the effect is about the same at all levels of delinquent activity.

CONCLUSION

In sum, the preliminary data tend to suggest that learning disabled children are more likely to become adjudicated delinquent than non-learning disabled children. There is some suggestion that learning disabled children engage more frequently in delinquent behaviors, but this evidence is not consistent and generally is not significant statistically. In the absence of any clear evidence that learning disabled children engage in more delinquent behavior, the major question becomes, "Why are LD children more frequently adjudicated delinquent?" Perhaps they are simply caught more frequently; or perhaps they are adjudicated differently. The answer to these questions must await further research and analysis.

FOOTNOTES

1. This report was prepared under Grant Numbers 76-NI-99-0133 and 76-JN-99-0022 from the National Institute for Juvenile Justice and Delinquency Prevention, Law Enforcement Assistance Administration, U.S. Department of Justice. Points of view or opinions in this document are those of the authors, and do not necessarily represent the official position or policies of the U.S. Department of Justice, Creighton University, Educational Testing Service, or the Association for Children with Learning Disabilities.
2. The approach taken in this study in identifying ID generally is one which focuses on discrepancies within ability and achievement profiles, supplemented by perception measures and test situation observations, as indicators of ID, which are not explainable primarily as mental retardation, lack of learning opportunity, or profound emotional disturbance.
3. Prevalence figures from this study will be reported in a future paper. The definitional issues related to ID within the context of this study still are being considered, and may affect the conclusions drawn in this report.
4. Delinquent youth were considered in this study to include any youngster who was adjudicated a "delinquent child" or status offender (e.g., "incorrigible" or "child in need of supervision") by a juvenile court, and who was placed on formal probation or committed to a department of corrections.

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ATTACHMENT

SELF-REPORTED DELINQUENCY SCALE

Status Acts

1. (How many times have you ever) cheated on an exam in school or turned in work that was not your own?
2. Stayed away from school for at least part of the day because you wanted to?
3. Been suspended from school?
4. Been thrown out of class by a teacher?

Miscellaneous Acts

5. Taken things that didn't cost too much from home or school without permission?
6. Taken something small from a store?
7. Kept or used something that you knew had been stolen?
8. Deliberately damaged private or public property?.

Alcohol-related Acts

9. Drank beer, wine, or liquor with parent's permission?
10. Drank beer, wine, or liquor without parent's permission?
11. Been drunk?
12. Bought beer, wine, or liquor?

Drug-related Acts

13. Used marijuana or hashish (grass, pot, hash)?
14. Used LSD, mescaline, or other psychedelics?
15. Used downers or barbituates (without a prescription)?
16. Used methedrine (speed) or other uppers or amphetamines (without a prescription)?

Automobile Acts

17. Driven a car on the streets by yourself?
18. Driven a car too fast or recklessly?
19. Ridden around in a car that was stolen for the ride?
20. Stripped someone else's car of parts to use or sell?

Criminal Delinquency

21. Taken at least \$20 or something worth \$20 that did not belong to you?
22. Broken into someone's home, or a store, or some other place in order to steal something?
23. Used force or threatened to use force to get money from another person?
24. Stolen a car?

Violent Delinquency

25. Had a fist fight in which someone got hurt badly enough to go to a doctor or hospital?
26. Carried a weapon like a gun, knife, or razor in case you had to use it against another person?
27. Used a weapon like a brick, knife, or razor in a fight?

TABLE 1

PROPORTION OF SAMPLE WHICH IS ADJUDICATED DELINQUENT

	AGE			
	13	14	15	MEAN*
LD	.45	.54	.59	.58
Not LD	.15	.22	.41	.32

* THE MEAN IS BASED ON AGES 12 THROUGH 17. THERE ARE TOO FEW PUBLIC SCHOOL CHILDREN OVER 15 AND TOO FEW DELINQUENTS UNDER 13 TO CALCULATE MEANINGFUL PROPORTIONS FOR THOSE AGES.

GIVEN THAT THE SAMPLE IS 39% ADJUDICATED DELINQUENT (61% PUBLIC SCHOOL CHILDREN), THE PROPORTION OF DELINQUENTS IN THE LD GROUP IS SIGNIFICANTLY HIGHER THAN WOULD BE EXPECTED BY CHANCE ($t = 15.71$, $p .05$).

TABLE 2

MEAN FREQUENCIES OF SELF REPORTED
DELINQUENT ACTS

	SAMPLE		
	PUBLIC SCHOOL	ADJUDICATED DELINQUENTS	MEAN
<u>MEAN FREQUENCY PER ACT</u>			
LD	3.9	13.5	9.5
NOT LD	2.9	11.7	5.7
MEAN	3.1	12.4	6.8
<u>MEAN FREQUENCY PER ACT (AFTER APPLYING LOG TRANSFORM)*</u>			
LD	.6	2.3	1.6
NOT LD	.5	2.1	.9
MEAN	.5	2.2	1.0
<u>MEAN NUMBER OF DELINQUENCY CATEGORIES ANY ACT REPORTED IN</u>			
LD	3.6	5.7	4.8
NOT LD	3.5	5.5	4.1
MEAN	3.5	5.6	4.3

* LOG TRANSFORM = $\text{LOG}_{10} (\text{RAW FREQUENCY} + 1)$

TABLE 3

SELF REPORTED DELINQUENCY
BY CATEGORIES

	MEAN RAW FREQUENCIES		FREQUENCIES AFTER TRANSFORM		% REPORTING ANY ACT	
	LD	NOT LD	LD	NOT LD	LD	NOT LD
STATUS	12.2	8.3	2.8	2.0	91	89
MISCELLANEOUS	9.9	6.4	1.9	1.3	80	77
ALCOHOL	16.0	10.0	2.6	1.6	80	76
DRUG	12.1	6.3	1.3	.6	54	37*
AUTOMOBILE	5.3	3.0	.7	.4	55	38*
CRIMINAL	4.6	2.2	.7	.4	54	37*
VIOLENT	6.6	4.1	1.1	.8	66	59*

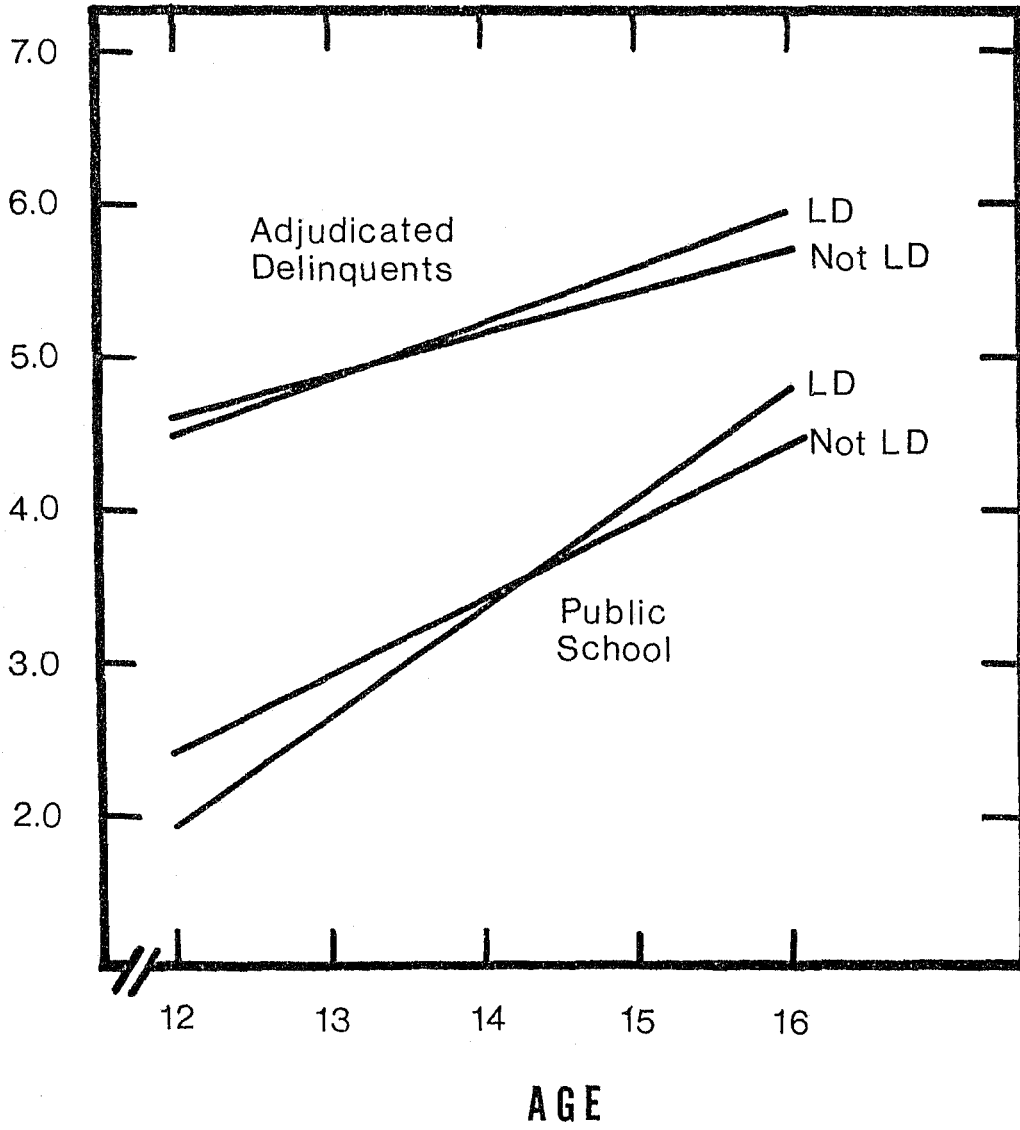
*DIFFERENCE IS STATISTICALLY SIGNIFICANT (p .05)

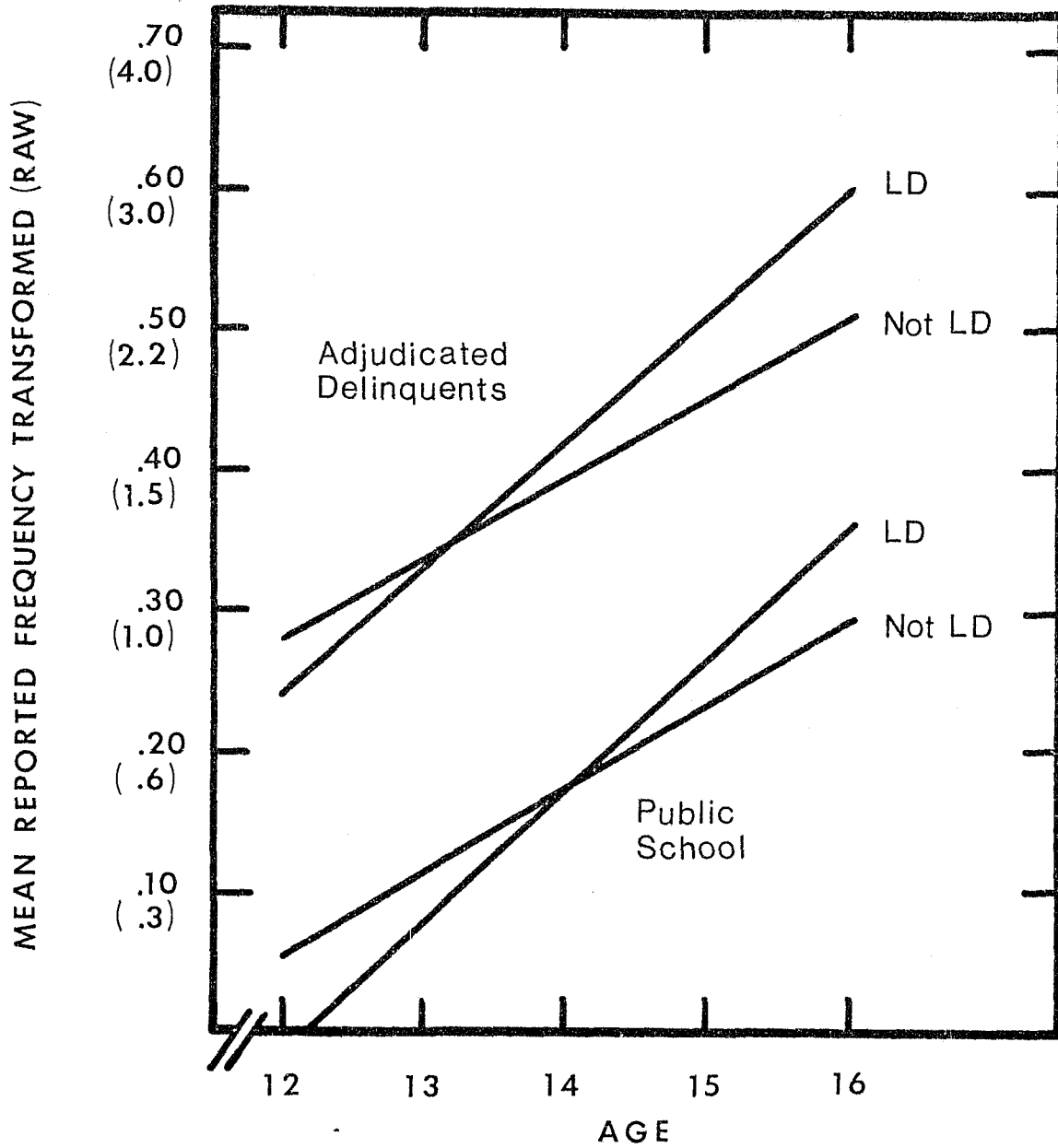
TABLE 4

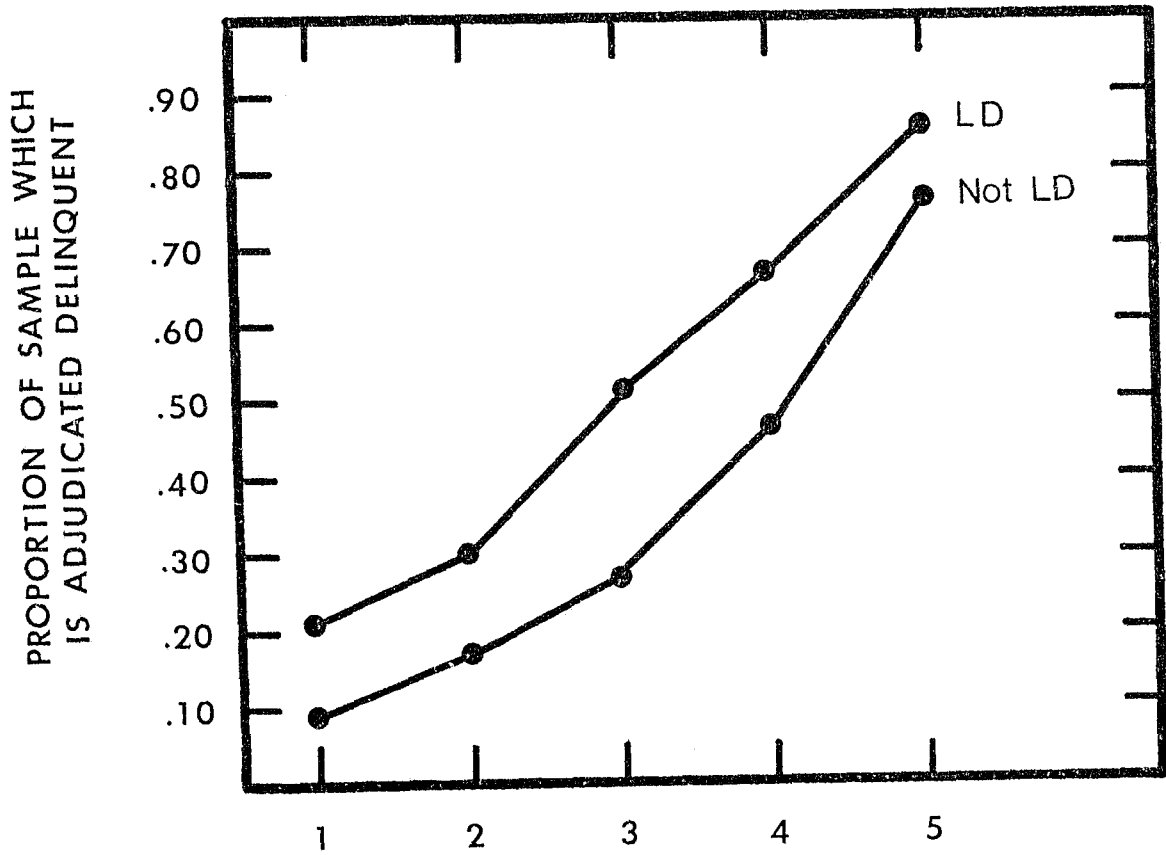
CORRELATIONS BETWEEN AGE AND REPORTED
FREQUENCIES OF DELINQUENT BEHAVIOR

		SAMPLE	
		PUBLIC SCHOOL	ADJUDICATED DELINQUENT
LD	r	.44	.32
Not LD	N	183	255
LD	r	.30	.21
Not LD	N	815	390

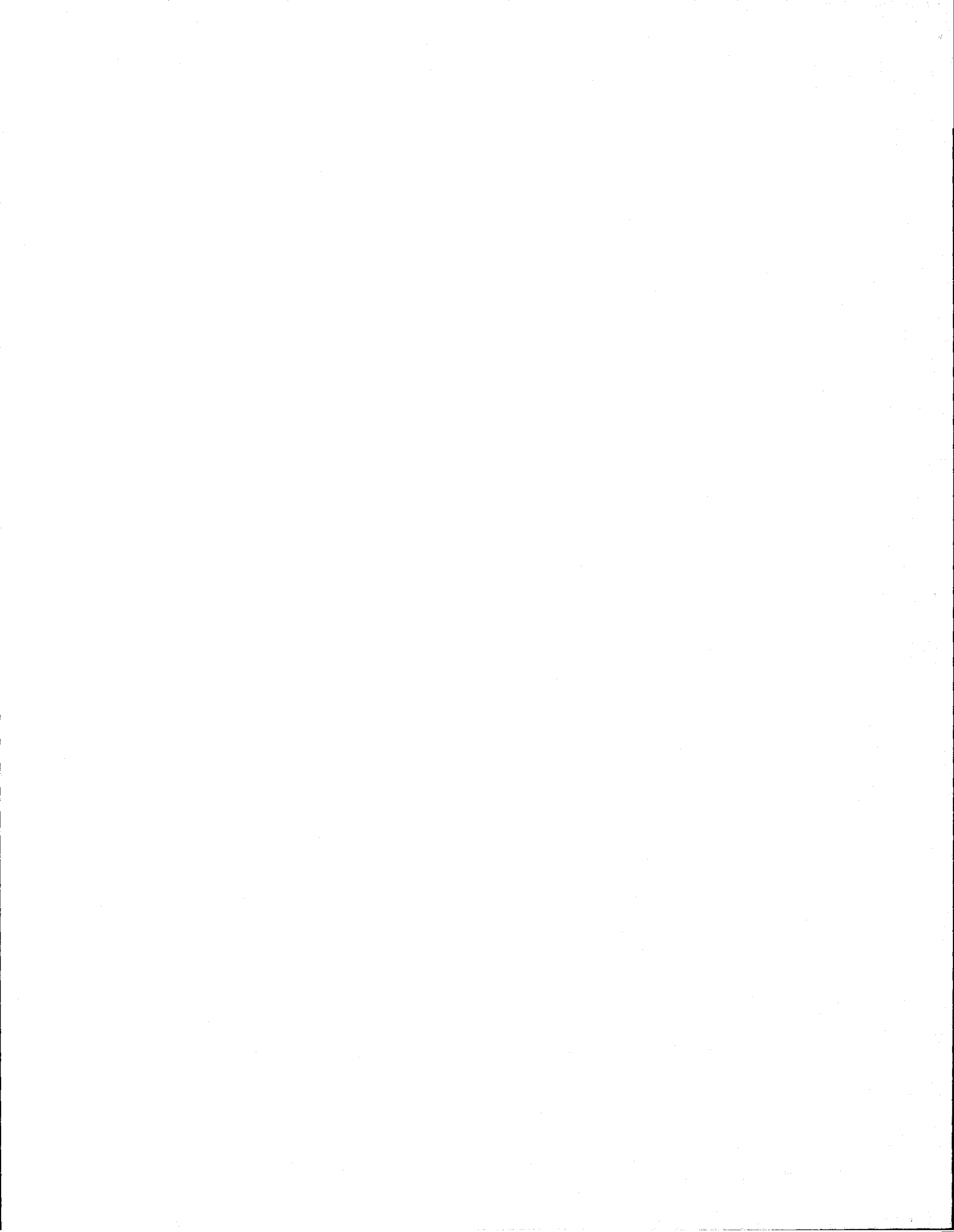
MEAN CATEGORIES OF ANY ACT REPORTED







FIFTH OF SAMPLE IN FREQUENCY OF DELINQUENT BEHAVIOR REPORTED



END