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ABSTRACT

Reported was an 8 year longitudinal study of social and antisocial behavioral correlates in 1550 third, sixth, and ninth grade children identified as either aggressive-disruptive or prosocial by their teachers. A more intensive study was made of 192 aggressive-disruptive and 192 prosocial children. Data included interviews, individual tests (such as the Kvaraceus Delinquency Proneness Scale), family rating by means of the Glueck Family Interaction factors and data on intelligence and academic achievement as reported in school records. Among the findings after 8 years were that 48% of the aggressive-disruptive group were found to have police records as compared to 22% of the prosocial group. Family factors found more commonly in the aggressive-disruptive children included inappropriate paternal discipline and inadequate maternal supervision. In school the aggressive-disruptive children were characterized by lower IQs and increasing gaps between achievement levels and expected performances. The Glueck measure was found to be a more effective predictive instrument than the Kvaraceus scale. Rank in high school graduating class was predicted by a multiple correlation of .88, while social adjustment was reported to be predicted with a multiple correlation of .82. Incidence of police contacts was predicted with 69% accuracy and juvenile court appearances with 76% accuracy. (DB)

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A Longitudinal Study of the Correlates
of Children's Social Behavior

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Many different criteria are used to define delinquency. These include (1) apprehension by the police, (2) the police record for a youth offense, (3) declaration by a court that a youth is delinquent, (4) self reported delinquent acts, (5) disruptive behavior in school, (6) commitment to the supervision of a social agency, or (7) commitment to an institution.

Delinquent behavior is acquired through the psychological mechanisms of

- (1) Frustration
- (2) Imitation of valued models
- (3) Reinforcement
- (4) Lack of control mechanisms
- (5) Quest for identity
- (6) Cultural pressures

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There may be few serious frustrations for many American youth. They may identify with and model the behavior of adults who rarely commit serious crimes or offenses. Youth who model prosocial behavior may be reinforced through praise, recognition and tangible rewards from family, peers and the school. Control of these youngsters' behavior at home and school may be firm, fair and consistent and balanced with love or affection. They may increasingly develop a sense of their own identity as involving prosocial behavior. The culture which impinges upon them values such behavior.

In contrast some youngsters may face substantial frustration at home and at school. These frustrations may include lack of love, beatings and deprivations at home, and persistent failure and humiliation in school. Frustrations cause anger, aggressive behavior, and a quest for alternative behaviors which may be successful and reinforced. These youngsters may lack models at home or in their neighborhoods of prosocial behavior. Much of the behavior they see modelled, particularly by esteemed males, is anti-social, aggressive, or criminal.

When these youngsters imitate some anti-social behavior they may receive substantial reinforcement in the form of praise, recognition, or tangible rewards. The parents and teachers may be erratic, unfair, inconsistent and/or overly harsh in their control or discipline and display no counter-acting affection. The youngster who finds his efforts at prosocial

behavior frustrated, who imitates aggressive or criminal models, who is then reinforced, may develop a sense of self in which antisocial behavior is integrated as a part of his total identity structure. The cultural milieu surrounding this youngster values certain types of delinquent behavior and reinforces those who behave in delinquent or criminal ways.

Delinquency is now a ubiquitous phenomenon throughout the world. It costs the United States over 50 billion dollars a year. It affects approximately one out of five youth in the United States. It seems unlikely that we shall reduce the amount of crime or delinquency in the United States in the foreseeable future. It seems likely that delinquency and crime will continue to flourish in any society in which there is substantial affluence, substantial poverty, degrading living conditions for many citizens, much freedom, and conflicting values.

We can now predict quite well which youth will become delinquent and criminal. But we have little knowledge of how to prevent delinquency. Delinquency prevention and remediation programs have done little to deter youth crime. Our present knowledge of juvenile delinquency should make it possible to design effective delinquency prevention and remediation programs. However, such programs would only be effective in helping a small number of youth. The overall rate of juvenile delinquency and crime in the United States cannot be reduced significantly through efforts to help individual youth.

Only significant changes in the values, structure, and operations of our major institutions could make a significant reduction in delinquency and crime. Delinquency and crime are deeply rooted in our social structure. But we must still strive to develop programs for delinquency prevention and remediation for individual youngsters to help as many as possible.

The school is one major factor contributing to delinquency. It is probably the third most important factor. The first is home and family and the second is peer culture. The school contributes to delinquency in several ways. First it fails to teach less able, disadvantaged youth well. Basic urban survival competencies are not taught well. Schools go on using antiquated methods and materials of instruction and teachers lack commitment to help less able and disadvantaged youth learn. For the most part these youngsters are condemned by the school and left to their underachievement.

Second, the schools become an increasing source of frustration for less able and disadvantaged youth. They are ridiculed and degraded. In all tracking systems they are the losers, the underdogs.

Third, by its inability to cope with youth crime in the school and on the playground and by providing a supportive setting for peer criminal culture to operate, the school even

becomes a breeding ground for delinquent behavior.

The delinquency research to be discussed in this paper was undertaken in four phases beginning in 1961. In Phase I all teachers of 3rd, 6th, and 9th grades in a county were asked to identify boys and girls from their classes whose behavior was persistently aggressive and disruptive and boys and girls whose behavior was consistently socially acceptable. In all, 1550 children were identified, 568 as aggressive-disruptive and 982 as displaying prosocial behavior. Each teacher was also asked to check on a list of 18 aggressive misbehaviors those which he had observed in each child nominated. The instrument was called The Behavior Problems Checklist.

A total of 384 children were then drawn randomly from the list of nominees for intensive individual study, 192 aggressive-disruptive and 192 prosocial youngsters. These children and their parents were then interviewed by psychologists and social workers. A series of tests were administered to the youngsters individually: the Kvaraceus Delinquency Proneness Scale; a set of story frustration exercises similar to the Rosenzweig Picture-Frustration Study; and a special sentence completion form. Each family was rated using the Glueck Family Interaction factors and other family interaction items. Data on academic achievement, intelligence, and personal-social adjustment of the children were secured from school records.

During Phase II, 1964-1965 and Phase III, 1965-1968 further data were secured on these 384 children concerning their contacts with police, health, and welfare agencies, and their achievement, behavior, and adjustment in school.

In Phase IV, 1969-1972, further information was gathered on all 1550 of the children who were first identified in 1961 and 1962. For the children who were in 3rd, and 6th grade in 1961 and who were now either in 12th grade or had graduated or dropped out of school, teacher grades (language, science, mathematics, and social studies) and standardized test scores (reading, writing, social studies, science, and mathematics) were obtained from school records. The Behavior Problems Checklist was completed by current teachers of the 12th graders. For the children who were 6th and 9th graders in 1961, all of whom were now out of school, rank in high school graduating class was obtained if they had graduated. Social adjustment ratings on eight aspects of behavior were available from school records for the 12th graders and the graduates. Police departments supplied data concerning frequency of recorded contacts for all youngsters. In addition, data concerning contact with welfare agencies, juvenile courts, mental health agencies, and health departments were also secured.

The methods of analysis used were the analysis of covariance for the achievement data with IQ as the covariate, analysis of variance for the social adjustment data, and chi square for

frequency of contact with the police and other community agencies. The primary independent variable in these analyses was behavior as aggressive-disruptive or prosocial. The secondary independent variables were sex, grade level, and home location as urban or rural.

Further analyses of the data have been carried out using the techniques of discriminant function analysis and regression analysis. In these analyses, data gathered in Phases I, II, and III have been analyzed as potential multivariate predictors of criterion data gathered in Phase IV.

The results of this research were presented in a technical report to the National Institutes of Mental Health.

The major aspects of this research through its four phases may be divided into several areas:

- (1) Some descriptive data for the sample
- (2) Home, family and parents
- (3) School
- (4) Psychological tests as predictors
- (5) Prediction of delinquency and related factors.

First, some descriptive data will be presented. In the total sample of 1550 youngsters, 48% of the youngsters who were first nominated in 1961 or 1962 by teachers as being persistently aggressive-disruptive had a police record for one or more offenses more serious than minor traffic violations

eight years later. Only 22% of the youngsters whose behavior was prosocial had police records.

Juvenile court records also reveal significant differences between the groups. Adjudication by a court represents a much more serious level of delinquency than simply having a police record. Of the aggressive-disruptive youngsters, 24% were known in juvenile court but only 3% of the prosocial youth had court records. Sex differences were also marked: 16% of the males but only 5% of the females had court records.

The Division of Corrections works with severely delinquent youth. Ten percent of the aggressive-disruptive youth but only one percent of the prosocial were involved with Corrections.

Secondly, it was found that aggressive-disruptive youngsters were quite disadvantaged in terms of the home, family, and parental situation when compared with prosocial youngsters.

1. The discipline by the father was either lax, overly strict, or erratic.
2. The supervision by the mother was only fair or downright inadequate.
3. The parents were indifferent or even hostile toward the child.
4. The family members were engaged in diverse activities and the family operated only somewhat as a unit or perhaps not at all.

5. The parents found it difficult to talk things over regarding the child.
6. The husband-wife relationship lacked closeness and equality of partnership.
7. The parents found many things to disapprove of in their child.
8. The mothers were not happy with the community in which they lived.
9. The parents resorted to angry, physical punishment when the child did wrong. Temper control was a difficult problem for them at this time.
10. The parents believed that they had little influence on the development of their child.
11. The parents thought that other children exerted bad influences upon their child.
12. The parents' leisure time included few cultural or intellectual activities.
13. The parents, particularly the father, reported no church membership. Even if members, church attendance tended to be sporadic.
14. The parents had less education and if they were employed, were in lower level occupations.

Third, numerous problems or disadvantages for the aggressive-disruptive youth were found in the school situation. It was here that their behavior was seen by teachers as persistently

aggressive and disruptive. This included such behaviors as lying, cheating, stealing, and bullying. The average IQ of the aggressive-disruptive youngsters was 103, as compared to 112 for the prosocial youth. Achievement in school as reflected in reading achievement test scores at the third grade level was significantly lower for the aggressive-disruptive youngsters than for the prosocial youth. At the third grade level the difference was only three months in grade norms. However, by the sixth grade level it had grown to a difference of over one grade level. In arithmetic achievement there were no significant differences at the third grade level but by the sixth grade level there was a significant nine month difference between the groups.

At the end of five years after original nomination and after eight years further data were secured on school achievement in the form of teacher grades and standardized achievement test scores in mathematics, English, science and social studies. In the analysis of this data analysis of covariance was used in order to control for the initial differences in IQ between groups. In spite of this adjustment large differences were still found between groups. The aggressive-disruptive youth were significantly lower than prosocial youth on all these indices of achievement and the differences seemed to grow more severe as they moved through school.

Dropping out of school prior to graduation is another index of school problems: 18% of the aggressive-disruptive youth and 3% of the prosocial dropped out. Rank in high school graduating class is another closely related measure. On a 100 point scale on which a lower number denotes the better academic position, the aggressive-disruptive youth who graduated did so at a mean rank of 68 while the prosocial youngsters graduated at a mean rank of 33.

Teacher ratings of personal-social adjustment and behavior problems as revealed in school were also secured five and eight years after original nomination for all youth who had continued to grade twelve. The following personality dimensions were rated: initiative, leadership ability, social adjustment, cooperation, popularity, appearance, responsibility, courtesy, and integrity. A total score for personal and social adjustment was also obtained. Ratings on all items and total score were significantly lower for the aggressive-disruptive than for the prosocial youngsters.

The Behavior Problems Checklist was readministered five and eight years after the original nomination for all youngsters who were still in school and could be located. The original aggressive-disruptive youngsters were still exhibiting significantly more aggressive-disruptive behavior than the prosocial youngsters. Among the third and sixth graders who were studied intensively

in 1961 and 1962 and who were now reassessed five years later, the ratio was as follows: 35% of the aggressive-disruptive youth were still exhibiting one or more problems but only 6% of the prosocial youth had such behavior problems.

Fourth, the groups were compared in terms of performance on psychological tests. Three instruments, the Kvaraceus Delinquency Proneness Scale, a sentence completion form, and a set of four story frustration exercises, were administered in 1961-1962.

The Kvaraceus Delinquency Proneness Scale consists of 75 statements. The youngster responds yes or no indicating agreement or disagreement. The analysis comparing aggressive-disruptive and prosocial youngsters yielded highly significant results. The mean delinquency proneness was significantly greater for aggressive-disruptive youth than for the prosocial youngsters. Similar highly significant results were found in analyses of the sentence completion data which indicated more maladaptive responses from the aggressive-disruptive than from the prosocial youngsters.

The story frustration exercises consisted of brief descriptions such as the following:

Bobby's father scolded him for coming home late from visiting a friend. The reason Bobby was late was because the bus was late. His father says he does not want to hear any excuses. Write all the things you can think of that Bobby might say or do to anyone about this.

The youngsters were asked to respond by writing all the things they could think of to do in response to the situation. Responses were scored in three ways: (1) quantity of ideas, (2) adaptiveness of responses, and (3) needs revealed. There was no difference between groups on the quantity index, but it was found that the aggressive-disruptive youngsters wrote significantly more maladaptive suggestions than their prosocial counterparts. For example, a maladaptive response would be to say "you are a dumb father," while an adaptive response would be to "wait until later and try to explain again."

Finally, these story-frustration exercises were scored for indications of psychological needs. Contrary to expectations, prosocial males wrote many more aggression-related responses than aggressive-disruptive males. For girls there was no differences. It seems possible that this reflected an ability in prosocial youth to vent aggression symbolically. The prosocial youngsters also showed much stronger defence needs than the aggressive-disruptive youngsters. This is the need to explain, justify or defend one's actions, failures or misbehaviors. This seemed to reflect a lack of concern about the consequences of one's behavior on the part of the aggressive-disruptive youngsters.

The fifth and final area relates to the long-range prediction of delinquency. In the original assessments of the youngsters in 1961-1962 two instruments designed specifically

to predict delinquency were used: the Kvaraceus Delinquency Proneness Scale and the Glueck Delinquency Prediction Tables. The latter consists of ratings on the following five family interaction variables by a trained social worker or psychologist: (1) discipline of child by the father as firm, lax or overstrict; (2) supervision of child by mother as suitable, fair or unsuitable; (3 and 4) affection of father and mother for the child as (a) warm or protective or (b) indifferent or hostile; and (5) family cohesiveness as marked, some, or none. The initial finding in 1961-1962 was that the aggressive-disruptive youngsters were much more delinquency prone than the prosocial youngsters according to results from both instruments. In subsequent analyses five and eight years later high and low scorers on both instruments were identified according to delinquency proneness. The Glueck Scales were quite predictive of later contacts with the police: 19% of the delinquency-prone group had later contact with the police while only 7% of those who were low in delinquency proneness had contact. But the Kvaraceus Scale had little predictive value. The corresponding results were 14% and 10% having police contact.

While these results of the predictive accuracy of individual tests are of interest in evaluating the efficiency of the individual instruments, univariate predictions of delinquency represent grossly inadequate procedures in light of current

statistical knowledge and computer capacities. Thus, in Phase IV of the research when criterion data were gathered up to nine years beyond the original selection and testing of subjects, all data were analyzed using stepwise multiple regression and multiple discriminant function analyses. The predictor set included the following variables assessed in 1961-1962 or later:

1. Sex
2. Behavior: aggressive-disruptive or prosocial
3. Chronological age
4. Behavior Problems Checklist score
5. Glueck Scale total score
6. Situation exercises total score (adaptiveness)
7. Sentence completion (Behavior Scale score)
8. Kvaraceus Delinquency Proneness Scale (KD): Total score
9. Reading achievement score in 1961-1962
10. Arithmetic achievement score in 1961-1962
11. IQ
12. Social adjustment
13. Teacher grades: Averages for English, science, math, social studies
14. Occupational and educational level of mother and father

The criterion variables to be predicted were as follows:

1. Law contacts
2. Juvenile court appearances
3. Social adjustment rated by teachers
4. Rank in high school graduating class
5. Academic: teacher grades and standardized achievement test scores in
 - A. English
 - B. mathematics
 - C. science
 - D. social studies

Regression analyses were used to predict academic achievement.

The multiple correlations for prediction of standardized achievement test scores and teacher grades were as follows:

	Standardized Achievement Test	Teacher Grades
Reading	.79	.82
Social studies	.75	.77
Science	.67	.69
Mathematics	.71	.79

Prediction of rank in high school graduating class was also attempted for all who had graduated. The multiple correlation was .88 and the best predictors were IQ, social adjustment, the Behavior Problems Checklist score, and the Glueck total score.

How well can social adjustment be predicted? A multiple correlation of .82 was obtained. The best predictors were the Behavior Problems Checklist score, IQ, the Glueck score, and teacher grades.

Finally, how well can delinquency be predicted in the form of police contacts and juvenile court appearances? For these analyses discriminant function analyses were used. In the total group of 1550 youngsters it was possible to predict delinquency or non delinquency with 69% accuracy. However, the error was also substantial. Twenty-four % of the youngsters who had no police contact were predicted to have contact. For the group of 384 youngsters who had been studied more intensively in Phase I, and for whom additional predictors were available, this error ratio was reduced to 17%. The best predictors were the Behavior Problems Checklist score, IQ, and teacher grades.

The predictions of juvenile court appearance were slightly more accurate. Overall the predictions were correct for 76% of the total group of 1550 youngsters. However, police contact was predicted for 20% who had no contact. In the subsample of 384 for whom more predictors were available this error was

reduced to 15%. The best predictors of juvenile court appearance were the Behavior Problems Checklist Score, sex, and school performance.

These results of prediction analyses were all cross-validated and found to be reliable. They indicate that long-range predictions of delinquency and related conditions can be made quite accurately using multivariate analyses. Such predictions can be useful not only in identifying youngsters who have high probability of becoming delinquent but also in identifying the particular variables for which remedial assistance may be needed.

Conclusions

The results of the present research indicate that many aspects of the school experience are negative for youngsters who show early signs of aggressive-disruptive behavior. The academic and personal frustrations faced in school, the lack of reinforcement for success behaviors, lack of control or discipline in school, and the availability of peer models of aggressive-disruptive behavior are conducive to the learning of aggressive-disruptive responses to school.

Frustrations also occur at home because of the inadequacies of the parents. The parents serve as models for aggressive behavior, and the parents lack effective discipline or control methods. The emerging sense of identity, possibly accepted

despondently by parents and teachers, is of a defiant and hostile youth who is failing or doing poorly in school and who sees little value in the school situation other than social interaction with peers.

Aggressive-disruptive behavior in school may generalize and transfer to delinquent behavior out of school. As the youngster matures and becomes increasingly free from parental and school controls, aggressive-disruptive behavior may move to the street and to the larger community. The new emerging sense of identity then takes on dimensions of criminal competence and loyalty to delinquent friends or a gang.

It seems likely that the major contributing factors to delinquency are the incompetence and indifference of teachers in dealing with underachievement and misbehavior in school, parental incompetence in discipline methods, lack of affectional relationships, poorly developed family cohesiveness, strong cultural or social pressures toward delinquent behavior, and abundance of peer models of delinquency. Efforts to help individual children must deal with problems at home and at school. Changing the culture or the availability of peer models is extremely difficult if not impossible. As suggested earlier efforts to help individual youngsters to overcome or prevent delinquency are valuable to the youngsters but they will probably make no difference in the overall incidence of delinquency.

Significant reductions in delinquency can be accomplished only through substantial changes in the schools, in cultural values, and in family organization. Such changes will come slowly if they come at all. It took a long time to develop the current high level of delinquency in our society. It will take a long time to reverse the trend. Crime is and will continue to be ubiquitous in our society.

Chronological List Of
Publications Related
To This Research

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