A Validation of the Glueck Social Prediction Scale for Proneness to Delinquency

Richard E. Thompson
A VALIDATION OF THE GLUECK SOCIAL PREDICTION SCALE FOR PRONENESS TO DELINQUENCY

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This article is a digest of a thesis presented in the Department of Social Relations of Harvard University for Senior Honors in June, 1952. Mr. Thompson has informed the Editor that there is a copy of the thesis entitled "Validating the Glueck Social Table for Predicting Juvenile Delinquency," on file in the Social Relations Library, Harvard University. He has, because of space limitations, been unable to present many tables and more detailed supporting data in this summary presentation.

The study is based on cases from the widely discussed Cambridge-Somerville Youth Study which was reported in the book, An Experiment in the Prevention of Delinquency, by Edwin Powers and Helen Witmer (Columbia University Press, 1951).

The writer of the present article carried out this prediction validation study under the direction of Mr. Edwin Powers, who was Visiting Lecturer in Criminology in the Department of Social Relations at Harvard in the academic year 1951-52. Mr. Thompson is now a graduate student at Boston University in the Department of Psychology. He is also engaged in studying another series of boys with a view to checking further the validity of the Glueck Social Prediction Scale as published in Unraveling Juvenile Delinquency (Chapter XX).—Editor.

Since the publication in 1950 of Unraveling Juvenile Delinquency by Professor Sheldon Glueck and Dr. Eleanor T. Glueck of the Harvard Law School, there has been substantial interest in a particular aspect of their study, namely, the method of identifying juvenile delinquents through their predictive tables. As described in their book,¹ the Gluecks have developed predictive instruments through which one may be able to detect potential young offenders as early as the time they enter school, so that proper remedial treatment can be applied before delinquent behavior develops or becomes fixed.

The introduction of these prognostic methods into the field of juvenile delinquency has naturally raised a question in the minds of a number of interested authorities relative to their validity and to the feasibility of their application. It is therefore of great interest to test the validity of these predictive scales in order to ascertain their value in the general scheme of delinquency prevention.²


². This research paper is one of the first two studies to attempt to validate the Glueck Social Prediction Table. The other is a recently published monograph which was in the process of writing at the time the research for this paper began. When preparing his study, this writer had not seen the monograph and hence was not acquainted with the procedures and findings in the independent study. The authors of the monograph, Bertram J. Black and Selma J. Glick of the New York Jewish Board of Guardians, made a study of 100 boys at the Hawthorne-Cedar Knolls School on whom they applied the prediction

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One of the Gluecks' earlier prediction tables published in *Criminal Careers in Retrospect* had been validated in a study made under the auspices of the U. S. Army in 1944. In that research the table, dealing with the behavior of civilian delinquents while serving in the armed forces, was applied to a group of 200 soldiers who had been delinquents in civilian life before entering the Army and who were at the time of the study confined in an army rehabilitation center for having committed military offenses. The question underlying the study was: "In what proportion of the 200 cases would it have been possible to determine, at the point of induction, merely by using the Glueck prediction table alone, without any other data, that these men would cause trouble in the army, and, therefore, should not have been accepted for army service?" As a result of the investigation, it was found that in 85 percent of the cases the table would have determined that these men were prospective offenders and should therefore have been denied induction; in another 10 percent the chances of good behavior in the army were 50-50; and in only 5 percent of the cases would the table have predicated inaccurately at the time of induction. It is interesting to note that this particular table was constructed on the basis of 131 boys living in Massachusetts, 65 percent of whom were Catholics, 31 percent Protestants, and 4 percent Jews, and of whom 82 percent came from urban communities and 18 percent from small towns and rural areas. In the Army study, on the other hand, the soldiers came from 24 states; 20 percent were Catholics and 80 percent Protestants, 25 percent were from urban communities and 75 percent from small towns and rural areas. Despite these differences the table was found to have a high predictive capacity.

Ten years of exhaustive research into the causation of delinquency are behind the latest predictive instruments developed by the Gluecks. In *Unraveling Juvenile Delinquency*, they carefully compared 500 persistent delinquents and 500 proved non-delinquents matched according

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scales from the Gluecks' *One Thousand Juvenile Delinquents and Unraveling Juvenile Delinquency*. They found that when the Social Prediction Scale from *Unraveling Juvenile Delinquency* alone was applied to the 100 delinquents at the Hawthorne School, 91 of these boys had considerably more than an even chance of becoming delinquent. As a result of this finding, Black and Glick conclude with the following statement: "On the basis of this predictive device derived from five major factors in the social background of the boys, it could have been determined very early in the lives of the 100 boys that they were headed for delinquent careers, in other words, that in over 90 percent of the instances they were likely to develop into serious delinquents. Not only would the way have been pointed to the need of earlier therapeutic intervention but it could have been applied at a stage in the boys' lives when intensive psychotherapy would be most likely to succeed." (*Recidivism at the Hawthorne-Cedar Knolls School*, Research Monograph No. 2, Jewish Board of Guardians, New York, 1952, by Bertram J. Black and Selma J. Glick, p. 22.)
to age, general intelligence, ethnic origin, and residence in underprivileged neighborhoods. These thousand juveniles, ranging in age from eleven to seventeen, were drawn from underprivileged areas in the city of Boston in order to control "a complex of socio-economic and cultural factors whose similarity would permit us to find out why it is that even in regions of most adverse social conditions, most children do not commit legally prohibited acts of theft, burglary, assault, sexual aggression, and the like."\(^4\) The persistent delinquents were drawn from the two state correctional institutions in Massachusetts, while the proved non-delinquents were selected from the public school population in the Boston area. The two groups were studied and compared intensively on 402 factors pertaining to their family history, personal background, physique, health, qualities of intelligence, traits of character and temperament. (The interested reader is referred to the volume, *Unraveling Juvenile Delinquency*, Chapter II, "Design of the Research.")

As a consequence, three prognostic tables were constructed by the Gluecks: one from factors of social background, the second from character traits determined by the Rorschach test, and the third from personality traits derived from psychiatric interviews. The first of these tables alone is the subject under discussion in this paper.\(^5\)

**CONSTRUCTION OF GLUECK SOCIAL PREDICTION SCALE**

A description of the manner in which the Glueck Social Prediction Table was constructed will provide a background for its experimental application as undertaken in this validation. The first step in the construction of the instrument was to select those factors pertaining to the family and personal history of the delinquents and non-delinquents that markedly differentiated the two groups. Since the Gluecks hoped that it would ultimately be possible to identify potential delinquents upon or soon after school entrance, they selected from among the differentiating factors those that were most likely to be present in the life situation of each boy before entering school.\(^6\) They narrowed the factors by selecting those that were most likely to be independent of each other. This of course resulted in omitting some of the most

\(^5\) The writer wishes to express his appreciation to Mr. Edwin Powers for the guidance he rendered during the course of the research.
\(^6\) One of the significant findings in the Gluecks' study is that about 90 percent of the delinquents had seriously misbehaved by their eleventh year and nearly 50 percent started misbehaving before the age of eight. In view of this fact, the authors believe that their prediction tables can be applied to boys as young as six years. *Ibid.*, pp. 28 and 257.
markedly differentiating factors. The Gluecks have learned from experience, however, that even if there is some overlapping of factors and even if they are not the most highly differentiative, the effectiveness of the prognostic table is not essentially affected. Another criterion in the selection of the factors was the practical one of ease or difficulty of gathering the data by those who might administer the table.

The second step in the construction of the table was to set down the percentages of the incidence of delinquency among all the boys in each of the subcategories under each of the five factors. For example, in the subcategory, overstrict or erratic discipline by the father, it was found that of all the cases in the Gluecks' study 72.5 percent were delinquents. These percentages constituted weighted "failure" or prediction scores. Table I presents the five social factors with their subcategories and failure scores.7

**TABLE I.**
The Five Social Factors With Their Weighted Subcategories and Failure Scores

<table>
<thead>
<tr>
<th>Social Factors*</th>
<th>Weighted Failure Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Discipline of Boy by Father</strong></td>
<td></td>
</tr>
<tr>
<td>Firm but kindly</td>
<td>9.3</td>
</tr>
<tr>
<td>Lax</td>
<td>59.8</td>
</tr>
<tr>
<td>Overstrict or erratic</td>
<td>72.5</td>
</tr>
<tr>
<td><strong>2. Supervision of Boy by Mother</strong></td>
<td></td>
</tr>
<tr>
<td>Suitable</td>
<td>9.9</td>
</tr>
<tr>
<td>Fair</td>
<td>57.5</td>
</tr>
<tr>
<td>Unsuitable</td>
<td>83.2</td>
</tr>
<tr>
<td><strong>3. Affection of Father for Boy</strong></td>
<td></td>
</tr>
<tr>
<td>Warm (including over-protective)</td>
<td>33.8</td>
</tr>
<tr>
<td>Indifferent or hostile</td>
<td>75.9</td>
</tr>
<tr>
<td><strong>4. Affection of Mother for Boy</strong></td>
<td></td>
</tr>
<tr>
<td>Warm (including over-protective)</td>
<td>43.1</td>
</tr>
<tr>
<td>Indifferent or hostile</td>
<td>86.2</td>
</tr>
<tr>
<td><strong>5. Cohesiveness of Family</strong></td>
<td></td>
</tr>
<tr>
<td>Cohesive</td>
<td>20.6</td>
</tr>
<tr>
<td>Some elements of cohesion</td>
<td>61.3</td>
</tr>
<tr>
<td>Unintegrated</td>
<td>96.9</td>
</tr>
</tbody>
</table>

*The definitions for each factor are listed as follows:

1. **DISCIPLINE OF BOY BY FATHER**
   - *Firm but kindly:* Discipline is based on sound reason which the boy understands and accepts as fair.
   - *Lax:* Father is negligent, indifferent, lets boy do what he likes.
   - *Overstrict:* Father is harsh, unreasoning, demands obedience through fear.
   - *Erratic:* Father varies between strictness and laxity, is not consistent in control.

7. *Ibid.*, p. 261. The writer is indebted to the Commonwealth Fund and Harvard University Press, publishers of *UNRAVELING JUVENILE DELINQUENCY*, for permission to reproduce this table and the definitions, and also Table II.
(2) SUPERVISION OF BOY BY MOTHER
Suitable: If mother does not work outside the home and is not ill, she personally keeps close watch on the boy or provides for his leisure hours in clubs or playgrounds. If she is ill or out of the home a great deal, there is a responsible adult in charge.
Fair: Mother, though at home, gives only partial supervision to boy.
Unsuitable: Mother is careless in her supervision, leaving the boy to his own devices without guidance, or in the care of an irresponsible child or adult.

(3) AFFECTION OF FATHER FOR BOY, and

(4) AFFECTION OF MOTHER FOR BOY
Warm: Parent is sympathetic, kind, attached, even, in some cases over-protective.
Indifferent: Parent does not pay much attention to boy.
Hostile: Parent rejects boy.

(5) COHESIVENESS OF FAMILY
Cohesive: There is a strong “we-feeling” among members of the immediate family as evidenced by cooperativeness, group interests, pride in the home, affection for each other. “All for one and one for all.”
Some elements of cohesion: Even if the family group may not be entirely intact because of departure of one or more members), the remaining group of which the boy is a part has at least some of the characteristics of the cohesive family.
Unintegrated: Home is just a place to “hang your hat”; self-interest of the members exceeds group interest.

The final step in the construction of the Social Prediction Scale was to determine the highest and the lowest possible scores that a boy could obtain on all five factors, by adding up the individual weighted failure scores. This resulted in a failure-score range of 116.7 to 414.7. Between these limits, score classes in intervals were then established. Each delinquent and non-delinquent in the Gluecks’ study, about whom there was available information on all five factors, was next scored on these factors and after adding his scores he was placed in his appropriate score class. When all these boys were thus assigned, the number of delinquents in each score class was converted into a percentage. This procedure was repeated with the non-delinquent boys. The percentages thus derived now represent the chance of potential delinquency and non-delinquency of boys in each score category (Table II).

TABLE II.
Four-Class Social Prediction Scale

<table>
<thead>
<tr>
<th>Weighted Failure Score</th>
<th>Chances of Delinquency</th>
<th>Chances of Non-Delinquency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 200</td>
<td>8.2</td>
<td>91.8</td>
</tr>
<tr>
<td>200-249</td>
<td>37.0</td>
<td>63.0</td>
</tr>
<tr>
<td>250-299</td>
<td>63.5</td>
<td>36.5</td>
</tr>
<tr>
<td>300 and over</td>
<td>89.2</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Inspection of Table II shows that the chances of delinquency of those boys placed in the failure score class of 250-299 exceed fifty-fifty, and when these combine with those cases scoring 300 and over they

8. Ibid., p. 262.
sharply differentiate their probability of potential delinquency from that of those scoring under 250. Hence the score 250 may be considered as the "cutting-off" point between potential delinquency and non-delinquency.

Method of Testing the Validity of Glueck Social Prediction Scale

To test the Glueck Social Prediction Scale the most feasible method was to apply it to an independent sample of boys and check the results to determine whether this new series of cases could have been correctly differentiated as potential delinquents or non-delinquents.

Fortunately an opportunity presented itself for such a testing—on cases that were part of a research generally known as the Cambridge-Somerville (Massachusetts) Youth Study, hereinafter referred to as CSYS, in which it was hoped by the originator, the late Dr. Richard C. Cabot, that pre-delinquents could be chosen from among school boys and treated in order to ascertain the extent to which it is possible to prevent the development of delinquent careers. The cases in the CSYS were chosen by a Selection Committee during the years 1937-39 as "average" (non-delinquent) and as "pre-delinquent" boys. Half of the total group were to be treated for a maximum of ten years and the other held as controls; both were to be followed up over a six to ten year period, at the end of which the effectiveness of the counseling program was to be measured.

Both treatment and control boys had been referred to the CSYS by public and parochial schools in two Massachusetts cities (Somerville and Cambridge) either as "average" or as "difficult" boys, and by probation and police officers and social agencies as "probable pre-delinquents." There were 325 boys in each group and they ranged in age from five through eleven at the time the treatment program began in 1937, although most of the subjects did not enter the project until 1938 and 1939. The treatment which the one group received was in the form of friendly counseling and direct social work with attention to their physical and emotional needs, tutorial help, summer camp placements and so on. The methods of selecting and matching the boys, the system of collecting the data, and the general evaluation of the results of the treatment program are described in *An Experiment in the Prevention of Delinquency*, by Edwin Powers and Helen Witmer.

These cases now furnish a unique basis for a testing of the Glueck
Social Prediction Scale, since the answer would be found in the CSYS files as to whether the boys initially chosen as non-delinquents and as pre-delinquents actually turned out to be such; and whether, had the Glueck scale been applied when the boys were first being selected, the cases would have been more, or less, accurately designated as pre-delinquents or non-delinquents than they were by the CSYS Selection Committee.

In securing data on a sample of 100 boys directly from the records of the CSYS, this writer selected every fifth case folder in the files until he had gone through both treatment and control groups, respectively, which were kept in alphabetical order. During this first selection he examined each folder to determine the adequacy and completeness of the data for use in the present inquiry. Any folder that did not appear to have sufficient material for all of the five social factors in the Glueck table was eliminated and the next folder was drawn. When the number of cases fell short of the necessary total after going through the files the first time, the writer repeated the process, this time removing every single case that appeared to have sufficient data until the required number was reached. Actually, a total of 166 cases was drawn from a group of 750 folders, so as to allow further elimination. From these 166 cases 100 boys were finally selected on whom completely adequate data were available for the purpose of applying the Glueck table. It must be kept in mind that the CSYS was not set up with the view to a check-up, some day, of the Glueck Social Prediction Scale, so that the case records were not infrequently deficient in the raw data on which the scorings had to be made, thus necessitating the search for case histories in which the data were sufficient for this purpose.

The method of sampling used in this investigation is of course not ideal, since the practice of selecting every fifth case had to be abandoned the second time the writer went through the files. The selection process, however, was on no other basis than for completeness of data.9

From all the case folders selected this writer obtained the necessary information relative to the five social factors in the Glueck prediction table. No notation whatsoever was made of a boy’s misbehavior manifestations or of any attitudes of the parents or teachers toward him which might reveal an already-established pattern of delinquent con-

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9. It must be stressed that the object of the study was to test the predictability of the five factors in the Glueck table when applied to a sample of boys other than those on whom the original scale had been constructed. This should be entirely distinguished from the problem of determining the probable incidence of delinquency in any particular population as a whole.
duct to the scorer of the data for predictive purposes. This writer merely copied verbatim any data pertinent to the five predictive factors of the Glueck scale to eliminate any possibility that the scoring itself would be prejudiced by any knowledge whatsoever of a boy's behavior.

Dr. Eleanor T. Glueck, co-author with Professor Sheldon Glueck, of *Unraveling Juvenile Delinquency*, scored the cases on the basis of the above information, to determine what the likelihood was that they were true pre-delinquents or true non-delinquents at the time when they were originally included in the Cambridge-Somerville Youth Study. The only information that accompanied the form sheets turned over to Dr. Glueck on which the above-mentioned data had been entered were the age of the boy and the date of the home investigation which had been made in connection with the CSYS. She did not seek or have access to the case folders prepared by the CSYS or to records of the behavior of the boys over the years either prior to or following their inclusion in the CSYS.

The main source of the data compiled by the writer from each case folder of the CSYS was a Home Visitor's Questionnaire containing detailed information about the boy and his family, which had been obtained in a personal interview by a social worker with his mother and in some cases with his father or other members of his family. Further information was gathered from other sources found in the folders: results of an interview with the boy's teacher; a schedule filled out by the doctor and nurse during the boy's physical examination at school; and summaries of records, if any, about the boy and his family culled from the files of social agencies.10

After the prediction scorings on all the 100 boys in the present sample had been completed by Dr. Glueck, only then did she ask for the actual subsequent behavior of each boy, that is, from the point following his original inclusion in the CSYS and up to his 17th birthday. This was then checked by the writer. There were already considerable data in the CSYS files on most of the cases. The CSYS research staff had followed up all their subjects over a period of ten years since the project had started. They had cleared the cases through the Massachusetts Board of Probation (a central clearinghouse of court records) for any official criminal records up to 1949. Another source of information was the running record of each boy kept for the purpose of the CSYS. The

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10. See samples of record forms and questionnaires employed by the CSYS in Appendix C (pp. 595-635) of *An Experiment in the Prevention of Delinquency* by Edwin Powers and Helen Witmer, 1951.
third source was in the follow-up interviews which the CSYS had carried out with every boy.

To determine the classification of a boy as a non-delinquent or delinquent on the basis of his subsequent behavior, the writer employed the Gluecks' definition of delinquency. As they put it, "delinquency refers to repeated acts of a kind which when committed by persons beyond the statutory juvenile age of sixteen are punishable as crimes (either felonies or misdemeanors) — except for a few instances of persistent stubbornness, truancy, running away, associating with immoral persons, and the like. Children who once or twice during the period of growing up in an excitingly attractive milieu steal a toy in a ten-cent store, sneak into a subway or motion picture theatre, play hooky, and the like and soon outgrow such peccadilloes are not true delinquents even though they have violated the law." In other words, any boy who committed a serious offense, or who in fact persistently committed delinquencies for which he was not necessarily apprehended, was considered a delinquent.

The definition of delinquency as used here differs in some respects from that of the CSYS as described in *An Experiment in the Prevention of Delinquency* (pp. 174-186). The present writer viewed his findings on the basis of both the Glueck and the CSYS definitions, suitably resolving the differences in cooperation with Mr. Edwin Powers, one of the co-authors of the CSYS project, and with his approval (this is fully reported upon in the writer's thesis).

It was found as a result of the follow-up investigation that of the 100 boys in the present sample, only 20 ultimately became delinquents, despite the intensive search on the part of the CSYS Selection Committee for pre-delinquents. According to "follow-up" information that was available (as of 1948), ten of the 20 delinquents had been committed to one or both of the two Massachusetts training schools for delinquents, and five of these ten were ultimately incarcerated in state prison.

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12. Sixteen of these 20 boys had official records: 13 charges being larceny, 17 burglaries, 4 charges of assault and battery, 4 sex offenses, 4 charges of malicious injury to property, trespassing, disturbing the peace, and the like, 2 robberies, 2 arsons, 1 arrest for truancy. There were 18 charges of violation of probation and 10 charges of violation of parole, a grand total of 75 charges for the 16 boys. Four boys of the 20 who were not arrested had, however, a history of "unofficial delinquencies": One boy stole repeatedly from stores; his CSYS counselor regarded him as "one of the most serious problems in my entire case load." Another boy was known to have been stealing regularly between the ages of 8 and 15. A third boy "clipped" from stores at age 10 until 15. The fourth boy appeared six times before a Police Crime Prevention Bureau between the ages of 12 and 16; he was known to steal frequently from stores.
Before presenting the findings as to the usefulness of the Glueck Social Prediction Scale in ascertaining who were the true pre-delinquents and who the future non-delinquents in the present sample, consideration should be given as to how they were initially labeled as pre-delinquent or non-delinquent by the Selection Committee of Three set up by the CSYS to assist in the original selection of the boys for inclusion in the CSYS. One member was a psychiatrist who had had many years of experience in treating delinquents and the other two were social case workers with special training in criminology. The function of the Committee was to determine whether or not a boy considered for inclusion in the CSYS was or was not a potential delinquent. The Committee had available comprehensive case studies on each boy including information about his personality, his family environment, and his school adjustment.

In contrast with the Glueck prediction scale the Committee did not make its predictions by mathematically computing weighted variables. What they used was an 11-point scale of their own. A rating of −5 indicated the greatest probability of a boy's becoming delinquent; the rating of +5 indicated an equal probability that a boy would not develop a delinquent career during the intervening years up to the age of seventeen. Between these two extremes of −5 and +5 were varying degrees of probability of delinquency or non-delinquency, with zero constituting the mid-point or neutral classification. The three experts made their predictions independently of one another, but when their ratings did not coincide on a particular case they met and discussed them until at least two of the three members were in agreement. If two of them alone made independent ratings on a case and agreed, their identical score was regarded as final and the third member was recorded as "not voting." But if these judgments did not coincide, the third member was called in and a final rating was made.

An analysis of the predictions formulated by the Selection Committee has been made by Donald W. Taylor. Although the prognoses were largely "configurational" or "impressionistic" in nature since there were no weighted variables, Taylor was able to study the factors upon which the predictions were based, by analyzing the reasons each member gave for his own prognosis. After the three Committee members made a rating for each case, they recorded in brief notes the chief factors upon which they had made their predictions. These protocols are available in the CSYS files. In a sample of 141 cases Taylor found that "the product-moment coefficients of the correlation of the ratings
of each of the three pairs of judges were all above .80.” It was also found that the number of factors mentioned by the Selection Committee in making their judgment as to whether a particular boy was a pre-delinquent was as many as 59, among which the twenty-one variables most frequently listed were in the following order: Adequacy of Home, Neighborhood, Intelligence, Status of Father, Parent-Boy Attitude, Standard of Living, Family Delinquency, Discipline in the Home, Attitude Toward Authority, Status of Mother, Personality Disorders, Social Adjustment, Number of Children in Family, Chronological Age, Health, Ordinal Rank Among Siblings, Status of Siblings, School Retardation, School Accomplishment, Unbroken or Broken Homes, Behavior.

Inspection of this list will show that not only did the three Committee members base their predictions on a much larger number of factors than those in the Glueck table (in which there are only five—see Table I), but they took into account the behavior of the boy, which information was purposely not presented to Dr. Glueck when she made her prediction scorings. In reference to these factors, Powers writes in An Experiment in the Prevention of Delinquency (p. 277):

We may assume that to the judges this list comprises the most important factors in the available information . . . What weight the predictors consciously or unconsciously assigned to any factors or what interrelationships impressed them as important is not known. Presumably they selected factors most commonly associated with delinquent and criminal behavior as reported in other research studies, or drawn from their own extensive experience with delinquents and criminals.

The important point in presenting the Selection Committee’s predictive ratings in the present inquiry is that they serve as a basis of comparison with the efficacy of the Glueck Social Prediction Scale. Since this scale is dependent upon weighted variables, while the Committee members based their predictions largely on clinical experience and a wide range of information already gathered about the boys by the social investigators of the CSYS, we have here, as already mentioned, a unique opportunity to determine not only the value of the Glueck prediction method but also whether it has a greater or lesser prognostic power than the expert judgment of the Selection Committee, comprised as it was of a psychiatrist and two social workers all highly experienced in dealing with delinquents.

**Findings**

Now the focus of our attention is, in the first place, on the accuracy
with which the Glueck Social Prediction Scale was able to identify those boys between the ages of six and 12 when they were first chosen by the CSYS Selection Committee for inclusion in the research either as "average" (non-delinquent) boys or as potential delinquents, who in the light of later developments and intensive follow-up of their behavior (regardless of whether they were in the treated or in the control group) actually did or did not develop delinquent careers.

In the second place the focus of attention here is in comparing the predictive accuracy of the Glueck Social Prediction Scale with the predictions made by a clinical group of experts who had available to them a great deal of information about the boys before categorizing them as "average" (non-delinquent) or as pre-delinquent.

It has already been stated that the 100 cases were scored by Dr. Eleanor Glueck without access to any data other than those pertaining to the five factors comprising the Social Prediction Scale (see Table I) and that she had no information whatsoever about the behavior of the boys at any stage in their lives. Her objective was to identify them at the same age at which the CSYS Selection Committee did, which was at the point at which they were originally chosen for inclusion in that research. In several instances the writer was requested to search for additional data on certain points in order that doubtful scorings might be definitively clarified.

In Table III the 100 cases are described on the basis of the scorings made by the Glueck Social Prediction Scale. The number and percentage of accurate predictions by the Glueck scale are indicated in the light of the actual behavior of the boys as revealed by the "follow-up" investigation covering their life-span from birth until at least the age of 17. The cases are distributed into two classes which have been contracted from the four-class categories in Table II.

### TABLE III.

<table>
<thead>
<tr>
<th>Score</th>
<th>Non-Del.</th>
<th>Del.</th>
<th>Total</th>
<th>Percentage Accurately Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 250</td>
<td>73</td>
<td>2</td>
<td>75</td>
<td>97.3</td>
</tr>
<tr>
<td>250 and over</td>
<td>7</td>
<td>18</td>
<td>25</td>
<td>72.0</td>
</tr>
</tbody>
</table>

Using as a "cutting-off" point between non-delinquency and delinquency
GLUECK SOCIAL PREDICTION SCALE

boys who scored under 250, meaning that their likelihood of delinquency was very small (3.5 or less in 10 chances) on the one hand, and those scoring 250 and over in the other group, meaning that their chances of delinquency were high (from 6.5 to 9 in 10), the writer found that of 75 boys scored by the Glueck scale as having a low chance of delinquency, 73 boys actually never did become delinquent; while of 25 boys who were scored by the Glueck scale as potential delinquents, 18 boys actually proved to be delinquents. Thus a total of 91 of the 100 boys (91 percent) were correctly identified by the Glueck scale either as non-delinquents or as pre-delinquents.

It might well be noted here that four of seven boys who were in the above mentioned group of 25 scored as potential delinquents, but did not turn out to be such, had been in the CSYS "treated" group — two of them receiving treatment for four years, one for five years, and one for six years. Hence, it is not entirely unlikely that these four had perhaps benefited from their counselors' efforts to such an extent that they maintained careers of non-delinquency rather than developing careers of delinquency, which would probably have been their lot had they not been treated. However, among all the 100 cases in the present study, 52 were in the CSYS control group and 48 in the treated group. Of the 52 controls, 92.3 percent were accurately predicted by the Glueck table. Of the 48 treated boys, 89.6 percent were correctly designated by the scale.14

We turn now to the predictions of pre-delinquency and non-delinquency made by the CSYS Selection Committee in contrast with the results achieved by the Glueck prediction scale. Since the Committee's method of prediction was based on an eleven-point rating scale, it was necessary to devise a means of making the three members' prediction results comparable to those derived by the Glueck scale. For the purpose of this study, the writer classified all minus ratings as pre-delinquents and all plus ratings as non-delinquents, omitting the neutral classifications (zero) from consideration. Thus the differentiation between minus and plus ratings served as the cutting-off point, comparable with the Glueck's score under 250 and the score 250 and over.15

14. Of the 52 controls, 12 were pre-delinquents, and 11 of these 12 cases (91.7 percent) were accurately predicted by the Glueck scale, while 37 of the other 40 controls (92.5 percent) who remained non-delinquents were accurately designated. Of the 48 treated boys, only 8 were pre-delinquents, and 7 of these 8 cases (87.5 percent) were accurately identified; while 36 of the other 40 treated boys (90 percent) who remained non-delinquents were accurately predicted by the Glueck scale.

15. On the basis of the CSYS's own definition of delinquency, which was taken into consideration when the writer analyzed the prediction results in his thesis, there were no marked differences in the comparison of predictive accuracy of the Glueck scale with the judgments made by the three-member CSYS Selection Committee.
It is seen in Table IV that the predictions of Member 1 proved to be correct in 65.3 percent; of Member 2 in 61.5 percent; and of Member 3 in 65.1 percent.

**TABLE IV.**
Predictive Accuracy of Glueck Scale Compared With Judgments Made by Three-Member CSYS Selection Committee

<table>
<thead>
<tr>
<th>Prognosticators</th>
<th>Number of Cases*</th>
<th>Number Accurately Predicted</th>
<th>Percent Accurately Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee Member No. 1</td>
<td>95</td>
<td>62</td>
<td>65.3</td>
</tr>
<tr>
<td>Committee Member No. 2</td>
<td>91</td>
<td>56</td>
<td>61.5</td>
</tr>
<tr>
<td>Committee Member No. 3</td>
<td>83</td>
<td>54</td>
<td>65.1</td>
</tr>
<tr>
<td>Glueck Scale</td>
<td>100</td>
<td>91</td>
<td>91.0</td>
</tr>
</tbody>
</table>

*The Committee Members had been, for one reason or another, unable to make judgments on all the 100 cases. The reasons are fully stated in the writer's thesis.

It is clear from this table that the Glueck prediction scale had considerably greater predictive power than did the members of the CSYS Selection Committee. This is further confirmed when, out of the 100 cases utilized in the writer's analysis, are examined only those 77 in which all four prognosticators made judgments. Member 1 of the Selection Committee predicted accurately in 67.5 percent of the 77 cases, Member 2 in 62.3 percent, and Member 3 in 66.2 percent; while the Glueck scale predicted correctly in 89.6 percent of these 77 cases.

We next view the efficacy of the Glueck predictive instrument as compared with the efficacy of the three CSYS clinicians in the light, not of the predicted results as related to the actual subsequent conduct of the 100 boys, but of the subsequent conduct of these boys as related to the predicted results. It is seen in Table V that the 20 boys who actually became delinquents were detected equally and highly accurately by both the Glueck scale and the three Committee members. On the other hand, the 80 boys who actually remained non-delinquents were far more accurately identified by the Glueck predictive scale than by the three Committee members. The relative inaccuracy of the Selection Committee's identification of the proved non-delinquents is reflected largely in their classifying over 50 percent of the 100 boys as pre-delinquents at the time they were selecting them for inclusion in their research. This, despite the fact that the Committee had, among the data supplied them by the CSYS staff, information pertaining to all misbehavior manifestations, as reported by teachers, parents, social workers, or the police. It has already been stated that this information was not available to Dr. Eleanor Glueck in making the prediction scorings.
TABLE V.
Actual Subsequent Conduct of 100 CSYS Cases as Related to the Predicted Results of
Glueck Social Prediction Scale and Three-Member CSYS Selection Committee

<table>
<thead>
<tr>
<th>Actual Subsequent Conduct of 100 Boys</th>
<th>Glueck Prediction Scale</th>
<th>CSYS Predictions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Member 1</td>
<td>Member 2</td>
</tr>
<tr>
<td>80 remained non-del.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number accurately predicted...</td>
<td>73 (out of 80 cases)</td>
<td>44 (out of 75 cases)</td>
</tr>
<tr>
<td>Percent accurately predicted...</td>
<td>91.3%</td>
<td>58.7%</td>
</tr>
<tr>
<td>20 became delinquent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number accurately predicted...</td>
<td>18 (out of 20 cases)</td>
<td>18 (out of 20 cases)</td>
</tr>
<tr>
<td>Percent accurately predicted...</td>
<td>90.0%</td>
<td>90.0%</td>
</tr>
</tbody>
</table>

The value of the Glueck predictive method can be better judged, however, by examining its results in the case of those boys who were eventually committed to one or both of the two Massachusetts training schools. There were ten such boys, and all were correctly identified by the Glueck scale between the ages of six and 12 years (five of these ten were later committed to state prison). It may be noted that the three members of the Selection Committee also successfully identified all of these ten boys. It must be remembered, however, that the clinicians who made the identifications had available to them data about the behavior of the boys; while in applying the Social Prediction Scale Dr. Eleanor Glueck was able in a few minutes to make the correct scorings without having any information about the boys or their families except that dealing with the five predictive factors making up the scale.

Some Basic Questions

Questions have been raised by a number of social scientists in regard to the efficacy of the Glueck Social Prediction Scale when applied to boys who differ in various respects from the make-up of the boys on whom the table was initially constructed. Although the numbers on which the following analyses are based are small, they do serve as exploratory clues toward further studies.

16. Messrs. Shaplin and Tiedman have expressed the belief that the non-delinquents in the Gluecks' study are not representative of the general population of non-delinquents from which they were drawn but are "below the general average of intelligence, are from underprivileged areas where high delinquency rates prevail, and are not representative of the ethnic distribution of the general population." Because of this they doubt that the Glueck Social Prediction Table can actually identify ordinary non-delinquents. ("Comment on the Juvenile Delinquency Prediction Tables in the Gluecks' Unraveling Juvenile Delinquency," American Sociological Review, Vol. 16, No. 4, p. 545, August, 1951.)
1. **Will the Glueck table, based as it is on boys eleven to seventeen years old, predict delinquency and non-delinquency of boys in younger age-groups?**

Of the 32 boys who were six or seven years old when the CSYS study began, 90.6 percent were accurately identified by the Glueck scale as either non-delinquents or pre-delinquents. Of 32 boys who were eight or nine years old, a like percentage of accuracy (90.6 percent) was achieved. Of 34 boys who were ten and eleven years old, 91.2 percent were correctly designated. This finding would indicate that the Glueck table has a high reliability applied to boys at any age level.

2. **Will the Glueck scale, based as it is on the control of ethnic origin (the majority of the boys in the Glueck research were of Irish, Italian and English descent) predict delinquency among boys of a different ethnic derivation?**

The sample of 100 boys in the present study includes a greater proportion of cases of Portuguese-Spanish extraction and a smaller proportion of Irish youngsters than were present in the Gluecks' group of 1,000 boys. Moreover, there were seven Negro boys in the sample, while none were present in the Gluecks' group. Despite these differences, 31 out of 37 (83.8 percent) boys of English and American background were correctly identified as pre-delinquents or non-delinquents. Of five Irish

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17. Professor Elio D. Monachesi writes: "It is true that there is evidence available that suggests that many aspects of personality are fairly well established at about the sixth year of the individual's life. Nevertheless, one may question whether the factors selected as predictors are necessarily those which are little modified by events that occur subsequent to the sixth year of life. Answers to this question can be obtained only when the validity of the predictors selected has been established empirically." (Book review in *Symposium on the Gluecks' Latest Research, Federal Probation*, Vol. XV, No. 1, March 1951, pp. 6-7.)

Judge Justine Wise Polier feels that the Gluecks' belief that it is possible to predict delinquency at such an early stage of a child's life is "based on a confusion between the significance of the ability to diagnose with great accuracy, and the ability to predict what will happen to a child in the future. One must ask to what extent does accurate identification of delinquent and non-delinquent boys, 11 to 17 years of age at the time of selection for study, indicate that prediction would be equally accurate were the same factors determinable at an early age. Accurate diagnosis based on cumulative data concerning the individual is still a far cry from prediction as to how the young child will develop. Even though some of the factors such as family background and I.Q. remain relatively constant, the changing attitudes or relationship between parents, between parent and child, the school experiences, the physical health, the friendships that develop and many other factors are surely not preordained at six, seven or eight years of age." (Children's Court, book review in *A Symposium on Unraveling Juvenile Delinquency, 64 Harvard Law Review*, No. 6, 1951, pp. 1036-1037.)

18. The members of the CSYS Selection Committee did not predict nearly as effectively as the Glueck Social Prediction Scale. In the 6 to 7 year age range the first member predicted correctly in 79.3 percent of the cases, the second in 64.3 percent, and the third in 72.7 percent (as contrasted with 90.6 percent by the Glueck scale). In the 8 to 9 year age group the first member predicted correctly in 54.8 percent of the cases, the second in 53.3 percent, and the third in 57.1 percent (as contrasted with 90.6 percent by the Glueck scale). In the 10 to 11 year age group the first member predicted correctly in 66.7 percent of the cases, the second in 68.8 percent, and the third member likewise in 68.8 percent (as contrasted with 91.2 percent by the Glueck scale).
boys, four (80 percent) were accurately designated. Of 24 youngsters who were of Italian extraction, all but one (95.8 percent) were properly identified. Of fourteen boys of Portuguese-Spanish extraction, all (100 percent) were correctly specified. Six out of the seven Negro youngsters (85.7 percent) were accurately designated. The remaining 13 boys (of French, Slavic and Near Eastern origin) were all correctly identified (100 percent). It seems therefore that the Glueck table is applicable to cases of varying ethnic make-up. This is especially evident in the perfect identification of the Portuguese-Spanish group.\textsuperscript{19}

3. \textit{Will the Glueck table apply as well on an independent sample of cases of somewhat higher intelligence than the group on which it was originally constructed?}\textsuperscript{20}

Of the 12 boys who had an intelligence quotient of 110 or higher, and of the 20 boys who had an I. Q. between 100 and 109, all (100 percent) were correctly identified by the Glueck table. Of the 45 boys with an I. Q. between 90 and 99, the Glueck prognostic instrument accurately identified 84.4 percent as pre-delinquents or non-delinquents. Of the 23 boys whose I. Q. was between 70 and 89, 91.3 percent were correctly designated.\textsuperscript{21}

4. \textit{Will the Glueck table apply to a sample of boys from families of better economic status than those on whom it was originally based?}

Of 25 boys who grew up in families whose economic condition was \textit{comfortable}, the Glueck scale made entirely \textit{perfect predictions}, (100 percent). (In the original series of cases on which the Gluecks had con-

\textsuperscript{19} Refer, also, to note \#2 regarding the predictions on Jewish boys. Ethnic origin of the boys in the CSYS was determined by the writer in accordance with the method utilized in \textit{UNRAVELING JUVENILE DELINQUENCY} (see p. 33) so that the data are comparable.

\textsuperscript{20} The mean intelligence quotient of the 100 CSYS cases was 97.6 while that of the 1,000 Glueck boys was 93.6. Such comparison is only arbitrary since the Gluecks employed the Wechsler-Bellevue test, whereas the Kuhlmann-Anderson group intelligence test was used in the CSYS research. Furthermore, the age range of the CSYS group in the present inquiry was from 5 to 12 years while that of the Glueck boys was from 6 to 17.

\textsuperscript{21} The intelligence of the boys was the third most frequently mentioned variable used by the Selection Committee in deciding whether a boy was a pre-delinquent. Analysis of their judgments reveals that they succeeded less often in predicting accurately in the case of boys with intelligence quotients below 100. Of the boys with I.Q.'s over 110, the first member predicted accurately in 75 percent, the second in 72.7 percent, and the third in 77.8 percent (as contrasted with 100 percent by the Glueck scale). Of the boys with I.Q.'s between 100 and 109, the first member predicted accurately in 90 percent, the second in 84.2 percent, and the third in 88.9 percent (as contrasted with 100 percent by the Glueck scale). Of the boys with I.Q.'s between 90 and 99, the first member predicted accurately in 59 percent, the second in 57.5 percent, and the third in 58 percent (as contrasted with 84.4 percent by the Glueck scale). Of the boys with I.Q.'s between 70 and 89, the first member predicted accurately in 56.5 percent, the second in 54.5 percent, and the third in 52.4 percent (as contrasted with 91.3 percent by the Glueck scale). It appears that the three men paid considerable attention to the intellectual capability of each boy. The Glueck table, on the other hand, did \textit{not} employ any information regarding the intelligence of the boys; hence this may account for the more even distribution of its accurate predictions.
structured their Social Prediction Scale only 8.5 percent were living in comfortable circumstances as contrasted with 27.2 percent of 92 CSYS cases. Of 43 boys from families of marginal economic status, 93 percent were accurately identified. Among 24 boys from families who depended upon relief, 83.3 percent were correctly designated.

5. Will the Glueck table, based as it is largely on boys who lived in areas where the neighborhood influences were poor, predict delinquency and non-delinquency of boys living in less disadvantaged communities?

Of the 30 boys in this check-up study who lived in good neighborhoods, 90 percent were accurately identified by the Glueck table, while 90.6 percent of the 64 boys who resided in underprivileged neighborhoods (as

22. Information concerning the economic status of the families was derived from the CSYS Home Visitor's Schedule which included entries on income as Adequate, Marginal, Relief (see AN EXPERIMENT IN THE PREVENTION OF DELINQUENCY, Appendix C, pp. 595-598). This three-fold classification is comparable with that used in UNRAVELING JUVENILE DELINQUENCY, Dependent, Marginal, Comfortable (see UNRAVELING JUVENILE DELINQUENCY, page 84).

23. The Selection Committee, who listed Standard of Living among the factors considered in their prognoses, were more successful in accurately predicting on those boys living in homes of adequate economic standards than on those of marginal and relief status. Of the boys whose families were of comfortable economic status, the first member predicted accurately in 86.4 percent, the second in 87.5 percent, and the third in 85.7 percent (as contrasted with 100 percent by the Glueck scale). Of the boys whose families were of marginal economic status, the first member predicted accurately in 65.1 percent, the second in 57.9 percent, and the third in 65.8 percent (as contrasted with 93 percent by the Glueck scale). Of the boys whose families were on relief, the first member predicted accurately in 52.2 percent, the second in 50 percent, and the third in 50 percent (as contrasted with 83.3 percent by the Glueck scale).

24. Professor Paul W. Tappan, for example, asks: "To what extent may a highly selective group of matured, persistent and incarcerated adolescent offenders from underprivileged areas of Boston, characterized by certain norms of ethnic background and of intelligence, be employed to predict potential delinquency among unselected young children in the public schools of other communities? Even assuming the extremely careful elucidation of the diagnostic data that would be necessary, and allowing for the margin of error in predictive accuracy that the Gluecks discovered to exist in the application of their tables, can their figures be employed for statistical prediction among ordinary school children?" (Sociology, book review in "A Symposium on Unraveling Juvenile Delinquency," 64 HARVARD LAW REVIEW, No. 6, 1951, pp. 1028-1029.

Mr. Sol Rubin comments: "Both delinquents and nondelinquents were selected from poor neighborhoods, for a simple reason—these are high-delinquent areas. The social factors table, however, says nothing about areas! Is this table applicable to all kinds of areas? Hardly. One could, for example, select from good and poor neighborhoods children who meet the conditions of overstrict or erratic discipline of boy by father, unsuitable supervision of boy by mother, indifferent or hostile father and mother, and unintegrated family. Would this test be equally effective in predicting delinquency for both groups? Possibly not. It has not been tried." ("UNRAVELING JUVENILE DELINQUENCY, 1. Illusions in a Research Project Using Matched Pairs," LVII THE AMERICAN JOURNAL OF SOCIOLOGY, No. 2, September 1951, p. 111.)

While still on the subject of neighborhood areas, it may be mentioned that Messrs. Shaplin and Tiedman, in their analysis of the Glueck table, point out that the number of delinquents on whom the Gluecks scored all five factors constitute approximately half of the sample (i.e., 451 out of 1,000 boys). Because of this so-called "restriction" they conclude that "the table is valid for only those populations in which the number of delinquents is approximately 500 per 1,000." ("Comment on the Juvenile Delinquency Prediction Tables in the Gluecks' UNRAVELING JUVENILE DELINQUENCY, AMERICAN SOCIOLOGICAL REVIEW, Vol. 16, No. 4, p. 546, August 1951.)
This finding indicates that the Glueck scale has as high a reliability when applied to boys from less deteriorated as from more underprivileged neighborhoods. It should be borne in mind also that the 100 boys were drawn from two cities neither of which is the one from which the boys in _Unraveling Juvenile Delinquency_ were drawn.

**SUMMARY**

In summary, it has been found that when the Glueck Social Prediction Table was tested against a sample of 100 boys of different age distribution, ethnic background, intelligence, economic status, neighborhood, it was able to identify accurately 91 percent of the boys who in the years that followed proved definitely to be either non-delinquents or delinquents. It maintained its high reliability when specifically applied to boys as young as six years. Its predictive power was maintained on boys of ethnic origin that was different from that of the series on which it had originally been constructed; on a group whose intelligence quotients were higher than those in the original group; on boys of somewhat better economic status than in the original sample in _Unraveling Juvenile Delinquency_; and it was just as effective when checked on boys residing in more privileged city areas.

When compared with the prognoses made by the three members of the CSYS Selection Committee who relied largely on their clinical experience, devoted much more time to the task, and took into consideration a greater number of variables (ranging from 21 to 59), including behavior up to the time of selection, the five weighted factors

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25. When the CSYS was begun, each neighborhood from which boys were drawn was rated on an 11-point scale ranging from good to bad influences (see page 48, _An Experiment in the Prevention of Delinquency_). The Gluecks had employed, on the other hand, a three-step classification of neighborhood influences—good, fair, poor—(see page 36 of _Unraveling Juvenile Delinquency_). The method used by the writer in equating the two groups is described in his thesis. It should be pointed out that none of the Gluecks' thousand boys lived in good neighborhoods but 30 percent of the 100 CSYS boys who comprise the present inquiry did live in such neighborhoods; while 94.5 percent of the boys included in _Unraveling Juvenile Delinquency_ lived in poor neighborhoods, as compared with 64 percent of the CSYS boys. Since the Glueck Social Prediction Scale had been constructed on the basis of boys practically all of whom lived in poor neighborhoods it is of especial interest to find that so high a proportion of the CSYS boys who lived in good neighborhoods had been correctly identified by the Glueck scale (90 percent).

26. The description of the neighborhood in which each boy resided does not appear to have played an important role in the Selection Committee members' prognoses, although it is ranked as the second most frequently mentioned factor in their protocols. Of the boys living in good neighborhoods, the first member predicted accurately in 60.7 percent, the second in 60.7 percent, and the third in 53.9 percent (as contrasted with 90 percent by the Glueck scale). Of the boys living in poor neighborhoods, the first member predicted accurately in 65.6 percent, the second in 59.7 percent, and the third in 69.2 percent (as contrasted with 90.8 percent by the Glueck scale).
of social background entering into the Glueck scale appear to be of far greater predictive capacity.

**CONCLUSION**

The implications of the findings derived from the present study are that the Glueck Social Prediction Scale should be of value in avoiding the labeling of so many youngsters as “pre-delinquents” when actually their annoying misbehavior may be temporarily symptomatic of their striving toward adjustment through the difficult process of socialization. The differentiating of non-delinquents from potential offenders by means of the scale should also make it possible to devote more pointed effort to those boys who are actually in need of preventive treatment.

The fact that, when compared with the predictions made by such clinical experts as a psychiatrist and two experienced case workers who judged the proneness to delinquency of each boy in the CSYS project on the basis of comprehensive material gathered from a large number of sources, the prognoses established by the Glueck scale appear to be significantly more reliable, would strongly attest the predictive value of the five weighted variables operating in the table.

The findings presented here, though hardly conclusive because of the smallness of the numbers under study, are, in their consistent trend, significant straws in the wind. Already, however, two other highly successful tests of the validity of the Glueck Social Prediction Scale have been completed by the Jewish Board of Guardians of New York City, each of them showing essentially the same predictive capacity as that revealed in this study,—one on a group of Jewish boys,27 and the other on a group of Jewish girls.

The Gluecks do not recommend that the Social Prediction Scale as well as the two other scales presented in *Unraveling Juvenile Delinquency* be used independently of all other essential data. They emphasize that “these prediction tables should not be used mechanically and as a substitute for clinical judgment,” but “are designed to aid the clinician in the always difficult task of individualization.” They are also “intended to help him see the individual in the perspective of organized experience with hundreds of other boys who in many crucial respects resemble the boy before him.”28

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27. This particular study has already been published (see footnote #2).