In recent years there has been a great deal of academic interest in the predicted behavior of our teenage population. The attempt to predict anti-social behavior among children is, however, not new. In the past, the Minnesota Multiphasic Personality Inventory (Hathaway and Monachesi, 1953), The Glueck Prediction Tables (Glueck and Glueck, 1950), Behavior Cards (Stogdill, 1949), and the Washburne Social-Adjustment Inventory (Washburne, 1938), have made serious attempts to predict anti-social behavior. Human behavior, however, is relative and subjective and does not lend itself readily to scientific scrutiny.

The Kvaraceus Scale is another predictive instrument for revealing anti-social attitudes among youngsters of school age and is based primarily on the focal points found in the many studies dealing with delinquency (Balogh and Rumage, 1956). The Proneness Scale consists of 75 multiple choice items that have been composed around focal points of difference in personal make-up, in home and family backgrounds, and in school experiences of delinquents and non-delinquents. The following items are typical of attitude and opinion questions utilized in the scale:

Of the following, I would most like to be a:

A. minister  B. teacher  C. policeman  D. prizefighter

(Balogh and Rumage, 1956).

Kvaraceus found that those children who, as a group, are delinquent, or who become delinquent, differ significantly from other children in such areas as the following: family relationships, home conditions, location of residence, social and economic status, truancy record, school retardation, academic aptitude, school marks, liking for school, immaturity, club membership, companionship, family mobility, etc. This is not meant to imply that every delinquent differs from every non-delinquent in these areas, since there is always in evidence considerable overlapping between the two groups on any one of the variables studied (Kvaraceus, 1953). Although studies have shown the Kvaraceus Scale to discriminate in several areas, the instrument has been tested only once previously on negro subjects.

STATEMENT OF PROBLEM

It was the purpose of this study to sample two male racial groups, white and negro, in an industrial community of 50,000. This area is characteristically heterogeneous with respect to race and ethnicity. Two hypotheses in question form were postulated:

1. Does the total scale score based on all differentiating items distinguish between the two groups (delinquents and nondelinquents) with sufficient sensitivity to merit consideration and use as a scale of delinquency proneness of vulnerability? (Balogh and Rumage, 1956).

2. Do negro subjects respond any more differently than white subjects to the various items in the scale?

The accepted level of confidence for this study was $P < .05$. 

*This study was supported by a grant from the Scholarly Advancement Committee of Bowling Green State University.

PROCEDURE

Each of the two racial groups was divided into three subgroups: juvenile delinquent, public school, and high morale. The delinquent subjects comprised the experimental group while the public school and high morale subjects made up the two control groups.

In selecting the subjects for the experimental delinquent group, the legal definition of delinquency in Ohio was used as the criterion (Balogh and Finn, 1961). The subjects for the public school control group were defined as average and typical public school children. (Balogh and Finn, 1961). The high morale control group included those persons who were doing well scholastically and were leaders for good in a school. They included persons who had a high degree of responsibility and dependability, who had a controlling influence for acceptable behavior in the school, who were generally concerned for the welfare of others, and who also showed a high degree of personal adjustment in their everyday living (Kvaraceus, 1953).

The subjects were selected randomly from the public schools. The ages of the subjects ranged from 12 to 17 inclusive and included 168 white boys and 68 negro boys. The delinquent group comprised 41 white boys and 25 negro boys; the public school group comprised 82 white boys and 21 negro boys; and the high morale group comprised 45 white boys and 22 negro boys.

DISCUSSION

For purposes of evaluation, a positive scale score indicated delinquency proneness and a negative scale score indicated non-delinquency proneness. It was found that white subjects for both high morale and public school groups, and 37 individuals or 88 percent of the juvenile delinquents, made negative scale scores. It would appear that the scale is particularly discriminating for white subjects comprising the high morale and public school groups. Conversely, the scale does not appear to discriminate for the juvenile delinquent group.

<p>| Statistical measures for male white and male negro delinquent, public school, and high morale groups |</p>
<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
</table>

All the negro subjects in the high morale group made negative scale scores. The public school group shows that 19 individuals or 90 percent of the subjects made negative scale scores. The juvenile delinquent group shows that 21 individuals or 84 percent of the subjects made negative scale scores. On the basis of these scale scores, it would appear that the measuring instrument is highly discriminating for both high morale and public school groups but only slightly discriminating for the juvenile delinquent group. Further, it would appear that in both racial groups the scale discriminates significantly for high morale and public school subjects, but the opposite is true for the delinquent groups.

Table 1 shows basic statistical measures for male white and male negro delinquent, public school, and high morale groups. In the white population, the negative mean scale score for both high morale and public school groups indicates that the measuring instrument is highly discriminating but somewhat more discriminating for the high morale group. The negative mean scale score for the delinquent...
group indicates that the scale is of questionable validity. The sigma is greatest for the delinquent group and smallest for the public school group with the high morale group in between.

In the negro population, all mean scale scores are negative. However, the instrument appears to be more discriminating for the public school group than for the high morale group. As previously stated, the opposite is true for the same groups in the white population. Although the negative mean scale score is the smallest for delinquent subjects, the measuring instrument is still of doubtful validity. The sigma is smallest for the high morale group and approximately the same for the public school and delinquent groups.

Table 2

Critical ratios for white and negro behavioral groups*

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Negro</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C.R.</td>
<td>P</td>
</tr>
<tr>
<td>High morale public school</td>
<td>-1.83</td>
<td>.07</td>
</tr>
<tr>
<td>Public school delinquent</td>
<td>-4.31</td>
<td>.001</td>
</tr>
<tr>
<td>High morale delinquent</td>
<td>-5.15</td>
<td>.001</td>
</tr>
</tbody>
</table>

Critical ratio formula.

\[
\frac{X_1 - X_2}{\sqrt{\frac{\delta_1}{N_1} + \frac{\delta_2}{N_2}}}
\]

Where \(X_1\) and \(X_2\) are the two means and \(\delta_1\) and \(\delta_2\) are the two standard deviations; and \(N_1\) and \(N_2\) are the numbers of subjects in the two samples.

Table 3

Analysis of variance factorial design involving age criteria and behavioral groups

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior groups</td>
<td>1805.61</td>
<td>2</td>
<td>902.805</td>
<td>20.88*</td>
</tr>
<tr>
<td>Age groups</td>
<td>784.430</td>
<td>1</td>
<td>784.430</td>
<td>18.14*</td>
</tr>
<tr>
<td>Behavior x age</td>
<td>52.97</td>
<td>2</td>
<td>26.485</td>
<td>Not significant</td>
</tr>
<tr>
<td>Within groups</td>
<td>9941.95</td>
<td>230</td>
<td>43.225</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12584.96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .01

Bartlett's test for Homogeneity of Variance: \(X^2\) of 4.017 with 235 df shows a \(P\) which is not statistically significant.

Table 2 shows critical ratios for white and negroes in all behavioral groups. In the white population, the critical ratios are statistically significant for both the public school and delinquent groups and the high morale and delinquent groups. The high morale and public school groups, however, did not attain statistical significance. For the negro population, the public school and delinquent groups have attained statistical significance. It would appear that the over-all differences in mean scale scores for both populations, negro and white, are most reliable for the public school and delinquent groups and least reliable for the high morale and public school groups. The negative critical ratios are indicative of negative scale scores from a 0 point in the measuring instrument. As previously stated, a negative scale score indicates non-delinquency proneness.

All critical ratios for high morale white and public school negro groups, high morale white and delinquent negro groups, public school white and high morale negro groups, public school white and delinquent negro groups, delinquent white and public school negro groups, and high-morale white and high morale negro
groups attained statistical significance. However, the critical ratios for delinquent white and high morale negro groups, public school white and public school negro groups, and delinquent white and delinquent negro groups did not attain statistical significance.

Table 3 shows an analysis of variance involving various age criteria and behavior groups. It would seem that variations in the six groups may also involve variations in scale scores. The F-ratio for the age groups seems to indicate that the ages may also have some bearing on scale scores. The F-ratio for the behavior and age criterion, however, did not attain statistical significance. The differential behavior pattern in the groups as a variable is not dependent upon the ages with which they are associated. Further, Bartlett's test for homogeneity of variance as indicated by the obtained chi-square of 4.017 with 235 df shows that the variances which are causing the differences among the groups may be the result of differences in the means.

FINDINGS

1. For the white population, the scale appears to discriminate significantly for both high morale and public school groups but not for the juvenile delinquent group.
2. For the negro population, the scale appears to discriminate significantly for both high morale and public school groups but not for the juvenile delinquent group.
3. It would appear that the behavior groups in their differential patterns are not dependent upon the ages with which they are associated.
4. The results for both white and negro delinquent groups are not encouraging, statistically.
5. The age criteria may also have some bearing on scale scores.
6. Further, variations in the behavior groups may also effect variations in scale scores.

SUMMARY

Although the scale shows some statistical discrimination for high morale and public school groups in both racial groups, the scale is only partially valid as a predictive instrument for anti-social behavior. The critical ratios were statistically significant for six white and negro groups, but for three other white and negro groups the opposite was true. Overall, the Kvaraceus Scale does not appear to show sufficient sensitivity as a technique of delinquency proneness or vulnerability. Also, the scale is not valid for white and negro delinquent groups. It may therefore be concluded that the hypotheses are only partially tenable for this study.

LITERATURE CITED