A Comparison of Black and White Adolescents on the HTP

Groups on either the HTP IQ measures or the adjustment ratings. The findings provided the first evidence that quantitative analysis of the HTP can be applied validly to the drawings of black persons and questioned the studies of Hammer, who concluded that black children appear to be more maladjusted than white children in their HTP drawings.

REFERENCES

ANALYSIS OF JUVENILE DELINQUENTS' HOLE DRAWING RESPONSES ON THE TREE FIGURE OF THE HOUSE-TREE-PERSON TECHNIQUE1, 2

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PROBLEM

The House-Tree-Person (H-T-P) Technique is a projective measurement designed primarily to ascertain the personality characteristics of an individual. In his introductory and subsequent work that deals with the three figures that comprise the test, Buck1, 2 felt that the drawing of the tree presented the best picture of the true state of the personality. His reasoning was that, of the three figures, it was the tree, a relatively neutral object, that would arouse the least conscious defensive cover-up and/or distortion on the part of the S and thereby allow expression of the unconscious (as well as conscious) aspects of the personality.

1This study was carried out as a master’s thesis by the first author under the direction of the second author while both were at Middle Tennessee State University.
2Please address reprint requests to Jerry L. Fryrear, Psychology Department, Tulane University, New Orleans, La. 70118.
Although Buck's early statements about the relative importance of the drawn tree leave little doubt as to his opinion, his own research, as well as that of other individuals who work with the H-T-P, indicates that the tree figure has received very little attention compared with the drawn house and person. In particular, studies that deal with specific aspects of the tree figure have received a disproportionately small amount of validation work when compared with the important role that these same characteristics may play in determining whether a diagnostican indicates the presence, or absence, of personality pathology. The present study takes one such aspect of the tree figure, the drawn knothole or limb scar, and examines it in relation to a set of 22 identifiable S-associated variables.

Buck and Hammer felt that the presence of a scar (i.e., knothole or limb scar) on the drawn tree trunk was an indicator of psychic trauma that had been experienced by the S and that it conveyed an impression of serious psychopathology. Buck even presented the suggestion that the height of the scar on the trunk, in relation to the total height of the tree, would yield the approximate fraction for finding the chronological date at which said trauma was to have occurred in the individual's life. Only two previous studies have been undertaken that have dealt specifically with the drawn tree scar. In one, Levine and Galanter, who used a population of 27 paraplegic veterans as their "traumatized" population, found that only 7 of the individuals drew trees with "unequivocal traumatic indicators" and, further, that there was "poor" correspondence between the relationship of the tree scar height location and the actual age-time relationship at which the veterans had become paralyzed. The writers suggest that either the hypothesis concerning the tree scar has dubious validity, or other unknown personality factors contribute to the appearance or nonappearance of such indicators on tree drawings. In the second and somewhat similar study, Lyons found a positive correlation between the tree scar height and chronological age at trauma.

In the few remaining studies that deal directly with the drawn tree, other so-called diagnostic signs have been investigated. Jolles, in a study that dealt with the occurrence of the "phallic" tree (the tree figure drawn in the shape of a phallus) in children's H-T-Ps, supported Buck's earlier contentions by concluding "the phallic tree has sexual significance and seems to be related to a psycho-sexual disturbance," who used a population of sex offenders to investigate the hypothesis that the "dead" tree is a good indicator of psychopathology, concluded "that the psychologically sickest people see their drawn Tree as dead." Even though this study involved a verbal description of the tree as dead, other works by Hammer and Buck indicate that the same diagnosis was, and is, assumed (nonverbally) for trees drawn without leaves, that were broken, fallen over, or otherwise scarred. Pursuing a similar line of investigation but obtaining opposite results, Judson and MacCasland, Moll and Pustel, Sternlicht and DeRespinis all arrived at the conclusion that there was a seasonal influence at work in the drawing of leafless or "dead" trees and that this particular drawing phenomenon should be interpreted guardedly. In a study that used grade-school children as Ss Orgel correlated the results of a sociometric evaluation with H-T-P sets scored for popularity potential and found that both the house and person were correlated positively (although not at the .05 level), while the tree figure was correlated negatively (although again not at the .05 level).

In a study relevant to the present undertaking, Naar found that there was no difference between the complete H-T-P drawings of delinquents and nondelinquents when compared for hostility, suspiciousness, and impulsiveness and scored according to standard methodology (see Buck.) The present study compared 22 psychological and demographic variables of juvenile delinquents who drew a tree with a scar or knothole compared with juvenile delinquents who drew a tree with no scar.
Analysis of Juvenile Delinquents' Hole Drawing Responses

**Method**

**Subjects.** The Ss' drawings were taken from the files of the Center For The Study of Crime, Law Enforcement and Corrections, located on the campus of Middle Tennessee State University at Murfreesboro, Tennessee. All the drawings were obtained during 1970-1972 as part of an extensive psychological evaluation. The delinquents represented all regions of the state and included individuals who were tested as court referrals and/or upon entrance into one of the state institutions for delinquents.

A total of 1844 case folders that contained complete House-Tree-Person sets were examined. Of this number, 228 sets contained tree drawings in which a hole had been drawn, while 1616 sets contained tree drawings that did not display the drawn hole. Seventy-six of the folders that contained tree drawings with the drawn hole were selected randomly from the population of 228 and assigned to the experimental group. Similarly, 76 folders that contained drawings that did not display the drawn hole were selected randomly from the population of 1616 and assigned to the control group.

**Procedure.** After the selection of the experimental and control group Ss, information on the following list of 22 variables was secured from the file of each S:

1. Age (in months)
2. Sex
3. County of residence (urban or rural)
4. Height
5. Weight
6. Race
7. Intelligence quotient (IQ) (As measured by the Wechsler Adult Intelligence Scale or the Wechsler Intelligence Scale for Children)
8. Birth order position
9. Parental composition in the home
10. Number of same-sex siblings
11. Number of opposite-sex siblings
12. Total number of siblings other than the S.
13. Reading grade placement
14. Season the drawing was made (fall, winter, spring, summer)
15. MMPI scales (Mini-mult Form)
16. Hypochondriasis
17. Depression
18. Hysteria
19. Psychopathic deviancy
20. Paranoia
21. Psychasthenia
22. Schizophrenia
23. Mania

These 22 variables then were examined by appropriate statistical methods (t-test for the variables: age, height, weight, IQ, reading grade placement and the MMPI scales, and chi-square analysis for the variables: sex, county of residence, birth-order position, parental situation in the home, number of same-sex siblings, number of opposite-sex siblings, total number of siblings, and season the drawing was made).

**Results**

Because it was an initial assumption that the present population (juvenile delinquents) was composed of individuals who may have been expected to have undergone psychic trauma (apprehension for criminal acts, court appearances and sentencing and placement in one of the state institutions for delinquent children), one of the first and most straightforward questions to be confronted was the actual incidence of drawn tree holes by this group. If Buck's\(^1\)\(^2\) contentions about the connection between psychic trauma and the drawn hole (or scar) were indeed correct, then a substantial percentage of said delinquents should draw the hole. However, the results of the examination of 1844 case folders do not bear this out. Only 12.36% of the case folders contained H-T-P sets in which a hole had been drawn in the tree, while 87.64% of the case folders contained H-T-P sets in which the Tree figure gave absolutely no indication of a drawn hole or scar.

After the selection of the Ss for the experimental and control groups, appropriate statistical methods were applied to analyze the information gained with
regard to each of the 22 variables in an attempt to ascertain the differences between the individuals who drew a hole and those who did not. The results are summarized in Tables 1 and 2. Of the 13 variables examined by t-test, only 2 proved to be statistically significant. These were intelligence quotient \( t = 1.74, p < .05 \) and the Mania scale of the MMPI \( t = 1.65, p < .05 \). Of the 9 variables examined by chi-square, none proved to be statistically significant.

**Table 1. Summary of Means, Standard Deviations and t-Tests of 13 Variables for Experimental and Control Groups**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experimental ( \bar{X} ) (( N = 76 ))</th>
<th>Control ( \bar{X} ) (( N = 76 ))</th>
<th>Experimental SD (( N = 76 ))</th>
<th>Control SD (( N = 76 ))</th>
<th>Value of t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (months)</td>
<td>186.36</td>
<td>187.28</td>
<td>16.12</td>
<td>17.03</td>
<td>-.34</td>
</tr>
<tr>
<td>Height (inches)</td>
<td>64.70</td>
<td>64.50</td>
<td>3.86</td>
<td>3.83</td>
<td>.32</td>
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<tr>
<td>Weight</td>
<td>122.76</td>
<td>122.07</td>
<td>22.21</td>
<td>22.42</td>
<td>.19</td>
</tr>
<tr>
<td>IQ</td>
<td>89.66</td>
<td>85.93</td>
<td>14.16</td>
<td>12.09</td>
<td>1.74*</td>
</tr>
<tr>
<td>Reading Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placement (months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>75.46</td>
<td>72.96</td>
<td>29.44</td>
<td>26.52</td>
<td>.55</td>
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<tr>
<td>MMPI Scales</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypochondriasis</td>
<td>17.20</td>
<td>17.41</td>
<td>5.44</td>
<td>4.90</td>
<td>-1.05</td>
</tr>
<tr>
<td>Depression</td>
<td>27.61</td>
<td>27.49</td>
<td>6.28</td>
<td>5.60</td>
<td>.13</td>
</tr>
<tr>
<td>Hysteria</td>
<td>24.68</td>
<td>25.71</td>
<td>5.61</td>
<td>5.55</td>
<td>-1.26</td>
</tr>
<tr>
<td>Psychopathic Deviancy</td>
<td>29.70</td>
<td>29.92</td>
<td>4.50</td>
<td>4.36</td>
<td>-.31</td>
</tr>
<tr>
<td>Paranoia</td>
<td>15.76</td>
<td>15.70</td>
<td>4.07</td>
<td>4.17</td>
<td>.07</td>
</tr>
<tr>
<td>Psychasthenia</td>
<td>33.12</td>
<td>34.00</td>
<td>6.24</td>
<td>5.95</td>
<td>-.88</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>41.18</td>
<td>41.00</td>
<td>8.32</td>
<td>8.18</td>
<td>.10</td>
</tr>
<tr>
<td>Mania</td>
<td>21.66</td>
<td>22.09</td>
<td>2.71</td>
<td>3.50</td>
<td>-1.65*</td>
</tr>
</tbody>
</table>

\*\( p < .05 \)

The results indicate that the delinquent who drew a hole in his or her tree figure tended to be more intelligent and less prone to acting out physically (i.e., tended to be more hyperactive).

**Table 2. Chi-square Analysis of Nine Variables for Experimental and Control Groups**

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
<td>1.29</td>
<td>NS</td>
</tr>
<tr>
<td>County of Residence</td>
<td>1</td>
<td>1.73</td>
<td>NS</td>
</tr>
<tr>
<td>Race</td>
<td>1</td>
<td>0</td>
<td>NS</td>
</tr>
<tr>
<td>Birth Order Position</td>
<td>9</td>
<td>5.58</td>
<td>NS</td>
</tr>
<tr>
<td>Parental Composition in the Home</td>
<td>5</td>
<td>.97</td>
<td>NS</td>
</tr>
<tr>
<td>Number of Same-sex Siblings</td>
<td>8</td>
<td>9.16</td>
<td>NS</td>
</tr>
<tr>
<td>Number of Opposite-sex Siblings</td>
<td>7</td>
<td>1.22</td>
<td>NS</td>
</tr>
<tr>
<td>Total Number of Siblings</td>
<td>3</td>
<td>10.08</td>
<td>NS</td>
</tr>
<tr>
<td>Season Drawing Was Made</td>
<td>3</td>
<td>1.22</td>
<td>NS</td>
</tr>
</tbody>
</table>
DISCUSSION

In attempting to draw some overall theoretical conclusions from the findings gathered by this study, perhaps it would be most judicious to proceed along two separate lines, dealing first with the data that concern the actual incidence of the drawn tree hole and, secondly, with the variables that proved to be significant in the between-groups analysis.

Buck (1, 2), Hammer (3), Orgel (12) and Rabin and Haworth (14) all make the clear statement that it is the tree figure that provides the best unaltered picture of the true state of the individual's personality, especially so because it appears to tap deeper unconscious levels due to the fact it arouses the least conscious-level defensive distortions. In a somewhat extended assumption with regard to a particular aspect that sometimes appears on the drawn tree, Buck (1, 2), Hammer (3) and Lyons (8) indicate that the scarring of the tree trunk (i.e., by drawing of a knothole or limb scar) is an indicator of past psychic trauma and may be additionally indicative of psychopathology. Given these two assumptions (that the tree is in fact a good indicator of the true personality structure and that the drawn scar reflects past trauma), then it seems reasonable to conclude that if an investigator were to avail himself of a population of individuals, a large percentage of whom may have been expected to have undergone psychological trauma, the incidence of the drawn tree hole should be fairly high. Within the overall population of children, it might be expected that juvenile delinquents (i.e., individuals brought before the juvenile court, tried and sentenced to a state correctional institution) would represent such a traumatized group who, accordingly, should draw a hole in the tree figure in a great percentage of the cases. The incidence of the drawn hole (only 12.36% of the total sets examined) in the population of delinquents examined for the present study does not bear this out. The data appear to support the findings of Levine and Galanter (7), who also noted a very low incidence of drawn holes in their population of traumatized individuals (paraplegic veterans). Although the low actual incidence of the drawn hole does not in and of itself refute the assumption that it represents past psychic trauma, it is a good indication that perhaps this particular diagnostic sign is unreliable from the standpoint of its low consistency of appearance. This assumption would agree, in part, with the findings of Marzolf and Kirchner (9), who found sizable disagreement on the reliability of certain H-T-P scoring items and on the same item from one drawing to another.

In an effort to see what differences, if any, there were between those Ss who did and did not draw the tree hole, a between-groups analysis of 22 S-associated variables was conducted. These data yielded very little in terms of the number of variables that reached significant levels. The two variables that did prove significant (IQ and the Mania scale of the MMPI), however, are of some interest. These factors may be, as Levine and Galanter (7) suggest, the previously unknown correct combination of personality variables that leads a person to express psychic trauma via the drawn tree hole. It well may be that the more intelligent individual who is less prone to act out inner tensions physically may be more inclined toward this type of subtle expression. This particular assumption bears serious additional investigation for, if it is true, then many of the H-T-P diagnostic signs may be understood more fully in light of the particular combination of personality characteristics that brings about their expression.

SUMMARY

H-T-P drawings of 1844 juvenile delinquents were examined, and a sample of adolescents who drew the tree with a hole or scar was compared with a sample of adolescents who drew a tree with no hole or scar. The two groups were compared with respect to 22 variables: age, sex, urban or rural residence, height, weight, race, IQ, birth-order position, parental composition in the home, number of same-sex siblings, number of opposite-sex siblings, total number of siblings, reading
grade placement, season the drawing was made, and eight MMPI scales. The two groups differed significantly on only two variables: IQ and the Mania scale of the MMPI. The adolescents who drew a tree with a hole were more intelligent (p < .05) and scored lower on the mania scale (p < .05).

REFERENCES


THE SIZE OF HUMAN FIGURE DRAWINGS OF LEARNING-DISABLED CHILDREN

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PROBLEM

Since the publication of Machover's\(^\text{12}\) monograph on the projective interpretation of human figure drawings, the Draw-A-Person Test (D-A-P) has been among the most commonly used psychometric instruments in the United States. Ratings of the relative frequency of its use amongst all psychometric tests have ranged from second only to the Rorschach\(^\text{17}\) to fourth\(^\text{11}\). The clinical use of human figure drawings as projective techniques has been based upon the assumption that the drawn figure is a representation of the drawer's subjective perception of his body (i.e., body image)\(^\text{12, 14}\).

The size (height) of human figure drawings is one of the many structural and content aspects of the D-A-P that have been the subject of considerable research attention. Traditionally, the height of the drawn figure has been hypothesized to be associated with the psychodynamic constructs of personal adequacy, energy level, self-esteem, self-concept, and emotional expansiveness vs. constriction\(^\text{14, 17, 10}\). Several excellent literature reviews are available that clearly reflect the inconsistent research evidence that supports these hypotheses\(^\text{14, 18, 19}\).