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# THE PERCEPTION OF VIOLENCE AS AN INDICATOR OF ADJUSTMENT IN INSTITUTIONALIZED OFFENDERS\*

ERNEST L. V. SHELLEY AND HANS H. TOCH†

Since differences in behavior sometimes reflect differences in perception, it is plausible to assume that persons who behave in an anti-social way might show a tendency to perceive the world in a characteristic fashion. If there were such a tendency, it would be of concern to psychologists working in the field of correction. Perceptual differences might prove relevant, for example, in evaluating need for treatment or in gauging progress toward rehabilitation. The present study represents an attempt to explore this ground. The technique and apparatus for the study derive from laboratory work in visual perception and are very different from diagnostic and prognostic tools conventionally used in correctional settings.<sup>1</sup>

Our technique owes its origin to research in the field of binocular perception, and specifically to experiments by Engel,<sup>2</sup> replicated and expanded by other investigators.<sup>3</sup> In these experiments, people

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<sup>1</sup> For a review of instruments used in attempts to diagnose criminal predispositions, see Hanley, *The Gauging of Criminal Predispositions*, in TOCH, LEGAL AND CRIMINAL PSYCHOLOGY ch. 10 (1961).

<sup>2</sup> Engel, *The Role of Content in Binocular Resolution*, 69 AM. J. PSYCHOL. 87 (1956).

<sup>3</sup> For a review of pertinent research, see Engel, *Binocular Methods in Psychological Research*, in KILPATRICK, EXPLORATIONS IN TRANSACTIONAL PSYCHOLOGY ch. 15 (1961).

are presented with two meaningful pictures—one to the right eye, and the other to the left. If the two pictures are similar, or if they don't overlap completely, they may fuse, i.e., they may result in a combination picture. However, if the pictures differ and cover the same space, rivalry occurs: first one picture is seen, then the other, then the first, etc. *For at least short periods of time, only one of the two pictures is seen, and the other one is not.*<sup>4</sup> Dominance can be achieved by making one of the pictures *structurally* stronger than the other—by tracing it with firmer lines, giving it greater detail or more color, or by making it brighter. What Engel showed was that the *meaning* of the pictures can also determine which picture is seen: a more familiar picture, for instance, will tend to prevail over a less familiar one, if the two are otherwise equivalent. Thus, if a picture of a face is shown to one eye, and a picture of the same face up-side-down to the other, most people will see predominantly the right-side-up face.<sup>5</sup> The same holds true of postage stamps.<sup>6</sup> In a cross-cultural study in which Mexican scenes were presented to one eye and similar American pictures to the other, it was found that persons of Mexican nationality would tend to see the Mexican pictures, while a matched group of Americans mostly perceived the scenes which were familiar to them.<sup>7</sup>

These and similar findings suggested the possibility of asking the following questions: Supposing a picture depicting violent or anti-social action were to be paired with another in which no violence was contained? Would the neutral picture tend to prevail? And if it would for some, would there be others for whom this would not be the case?

<sup>4</sup> Sets of slides used for this purpose were described by Breese, *On Inhibition*, 3 PSYCHOL. REV. MONOGRAPH SUPP. No. 1 (1899). More recent stereograms of this type are those discussed by Engel, *supra* note 2, and Toch, *Can Eye Dominance be Trained?*, 11 PERCEPTUAL AND MOTOR SKILLS 31 (1960).

<sup>5</sup> Engel, *supra* note 2.

<sup>6</sup> Hastorf & Myro, *The Effect of Meaning on Binocular Rivalry*, 72 AM. J. PSYCHOL. 393 (1959).

<sup>7</sup> Bagby, *A Cross-Cultural Study of Perceptual Predominance in Binocular Rivalry*, 54 J. ABN. SOC. PSYCHOL. 331 (1957).

A recent experiment provided answers to these questions. It was shown that whereas most people perceive few violent pictures when these are paired with non-violent ones, this does not hold true of advanced students in a law enforcement training program. Such persons see significantly more violent pictures than do comparable liberal arts students or candidates entering the police training program.<sup>8</sup> It appears that when a person is exposed to crime detection courses he is ready to perceive violence where other people fail to see it.

Would the same hold true of persons who have anti-social tendencies—who are *predisposed toward violent or anti-social conduct*? Such was the question posed in the present study. The object of the experiment was to try to locate a “violence-prone” or “violence-wise” group of persons among a population of institutionalized offenders.

#### PROCEDURE

##### *Subjects*

The subjects used in this study were inmates of a Corrections-Conservation Youth Camp administered by the Michigan Department of Corrections. This camp had the advantage of being conveniently accessible from the campus of Michigan State University.

The institution affords minimum custody. There are no fences, walls, or armed guards, and the men move freely within the limits of the camp area. An effort has been made in this context to develop a therapeutic community; the camp has been a center for much experimentation and innovation in correctional programs. The men are thus accustomed to experimental procedures and made a good group for this type of study.

The characteristics of the group are as follows:

- (1) Chronological ages range from 17 to 24 years, with 65% of the group falling in the 19-21 year range.
- (2) The group is about one-third Negro and two-thirds White.
- (3) The IQ range is from 60 to 114, with 73% of the group falling in the 75 to 90 IQ group.
- (4) Academic achievement is predominantly at the fifth grade level, with only 10% of the 80 campers having academic skills of eighth grade or higher. This and the previous item reflect the intake selection process.

<sup>8</sup>Toch & Schulte, *Readiness To Perceive Violence as a Result of Police Training*, 52 BRIT. J. PSYCHOL. 389 (1961).

Only youthful offenders lacking ability for high school work, or uninterested in it, are assigned to this facility because it has no formal educational or vocational program.

- (5) Ninety-five percent of the group is having its first prison experience, but 55% have had institutional experience as juveniles, and most have spent short periods of time in county jails.
- (6) Eighty-five percent of the group are serving sentences for some form of theft. By law, men are excluded from the camp if they are sentenced for first degree murder, a deviated sex act, or drug addiction.
- (7) Generally the sentences have minimums of one or two years.

The men in this camp work 40 hours per week under the supervision of Conservation Department staff on projects in nearby state forests or state parks.

##### *Apparatus and Test Materials*

Two different pictures are presented to the left and right eye by means of a stereoscope—the same device which produces a three dimensional image when two slightly discrepant versions of the same picture are used. The conventional “parlor stereoscope” has been modified for experimental purposes in various ways. The adaptation used for our study is basically that originated and described by Engel. It consists of a stereoscope shaft enclosed in a light-tight box supported by four legs and positioned at eye-level to the seated subject. The two fields are separated from each other by opaque cloth suspended between a holding pin and a roller operated by a spring. The images are illuminated with two 7½ W bulbs located in the front right and left hand corners of the box. The illumination can be separately or conjointly varied.

This device was further modified for our purpose through the inclusion of an Interval Timer, which permits exposure of the slides for very short periods of time.

The slides designed for this stereoscope are sets of two 2" x 2" pictures mounted on cardboard and sprayed with plastic for protection. Our slides were opaque reproductions of solid line drawings selected from a collection issued by the Pictograph Corporation of New York.<sup>9</sup> These drawings were the same as those used by Toch and Schulte and were

<sup>9</sup>Pictograms are copyrighted, but permission for reproduction could not be secured since the post office was not able to locate the owners of the copyright.



FIGURE I

ONE OF NINE STEREOGRAMS USED IN THE EXPERIMENT

selected to conform to the following criteria:

- (1) One picture of each pair had to depict a crime-related or violent scene, whereas the other picture was selected as being devoid of violent content.
- (2) The two pictures had to be structurally matched so as to occupy the same space and location in the visual field.
- (3) The two pictures had to be mutually exclusive, in the sense of not fusing into a single image.

The selection of pictograms to meet these criteria is a rather laborious trial and error process, requiring a certain amount of pre-testing as well as physical measurement of stimuli.

Nine sets of slides were developed and used for the present study. The violent slides include depictions of shooting, stabbings (two), suicide, hanging, a man with a knife in his back, a car theft, a policeman, and a convict. The other pictures on these slides comprise a farmer, an announcer, a woman and a baby, a mailman, a laborer, a man operating a drill press, a girl sitting at a desk, and a group of refugees. A sample set of slides (Farmer-Shooting) is reproduced in Figure I.<sup>10</sup>

#### *Administration Procedure*

Every inmate of Camp Brighton was tested with the stereoscope. Prior to the administration of the slides, each person's "fusion point" (the setting where the pictures coincide) was determined by means of a test slide featuring two concentric circles. The subjects were then told that they were participating in an experiment testing the visual recognizability of objects under specific conditions. They were instructed as follows:

"We would like to know how well each of the objects can be recognized. Some of them are fairly easy and others are more complicated. The pictures will be presented successively, and

<sup>10</sup> The dimensions of the actual drawings are slightly distorted, because one of them is somewhat enlarged.

will be on only a short period of time. If you do not see a recognizable object the first time, ask to see it again, and I will flash it as many times as you need. We are interested in as many details about the object as you can report."

Each slide was presented for 0.5 seconds. To rule out the effects of eye dominance, violent and neutral pictures were presented alternately to the right and left eye, and the whole series was run twice—once with the first violent scene to the right eye, and once to the left.<sup>11</sup> Each subject, in other words, saw each picture with each eye.

#### *Selection of Test and Control Groups*

Test scores were determined by simple addition of the number of "violent" pictures perceived by the subject in his 18 trials. A score of 5, for instance, would represent the perception of 5 violent and 13 neutral pictures.

A group of men who received the highest such scores in the camp (who saw the relatively largest number of violent pictures) was separated out as the test group. If perception of violence were related to failure in the camp, the prognosis for this group would be unfavorable. Each member of the test group was matched with another inmate of the same age and race. The "null hypothesis" would predict no difference in the camp behavior of these two matched groups.

#### *Other Measures Used*

Five methods were used to investigate further differences between the test and control groups. First, three projective type instruments were administered to each subject. These were the House-Tree-Person Drawings according to Buck;<sup>12</sup> the Rorschach Test;<sup>13</sup> and Cards 3BM, 13MF, 17BM, 18BM, 14, and 20 of Murray's Thematic Apperception Test series.<sup>14</sup> These six cards of the TAT were selected because previous studies by one of the authors had indicated that they were most productive of anti-social themes with youthful offenders.<sup>15</sup>

<sup>11</sup> One subject had to be excluded because of a strong eye dominance which caused him to see only pictures presented to the left eye. Another subject was not tested because he was functionally blind in one eye.

<sup>12</sup> Buck, *The H-T-P Technique*, 5 J. CLIN. PSYCHOL. 37 (1949).

<sup>13</sup> BECK, *RORSCHACH'S TEST* (1944).

<sup>14</sup> MURRAY, *THEMATIC APPERCEPTION TEST MANUAL* (1947).

<sup>15</sup> Shelley, *Evaluating the Effectiveness of an Organized Counseling Service in Reducing Anti-Social Attitudes of Youthful Offenders*, 21 DISSERTATION ABSTRACTS 1282 (1960).

The drawings were scored for appearance of weapons, assaultive action, or obvious assaultive stance of figures. The Rorschach was scanned for frequency of C or CF responses and mention of weapons or assaultive acts in the content. The themes of the TAT cards were scored for assaultive elements such as themes of murder, assault with or without weapons, rape, shooting, armed robbery, and threat to assault.

The second differentiating measure used was to have each of the men in the two groups rated by the camp supervisor and the camp counselor on the following scale:

- (1) Bad adjustment at camp.
- (2) Below average adjustment in camp.
- (3) Average adjustment in camp.
- (4) Good adjustment in camp.
- (5) Excellent adjustment in camp.

To provide a third measure of difference between the groups, the criminal record was searched in each case for instances of arrest or conviction for assaultive acts. The social history was also examined for reports of such incidents. Further, a condensed anecdotal case history of each individual in the groups was constructed from his pre-sentence and institutional reports.

Our dependent variable was the quality of institutional adjustment of each subject from the time he was tested until he was released or returned to maximum custody for failure to adjust in the camp. Here we simply wanted to see if the subject did well enough to remain in the camp or if he truanted or had to be removed from the institution for disciplinary reasons. Under the latter heading would be reasons such as not being able to get along with other campers, consistently disregarding camp regulations, or unwillingness to accept the work program.

## RESULTS

### *Distribution of Scores*

Figure II represents the distribution of violence perception scores for the entire camp. As may be noted, this distribution ranges from 1 through 13 violent percepts out of 18 presentations. Most of the subjects clustered around the mean score for the camp, which was 6.4. (The median was 6.0, and the mode, 7.0.) The standard deviation of the distribution was 2. Fifty-three of the 81 campers saw either 5, 6, or 7 violent percepts.

The test group to be used for the study had to be made up of persons clearly falling into the upper

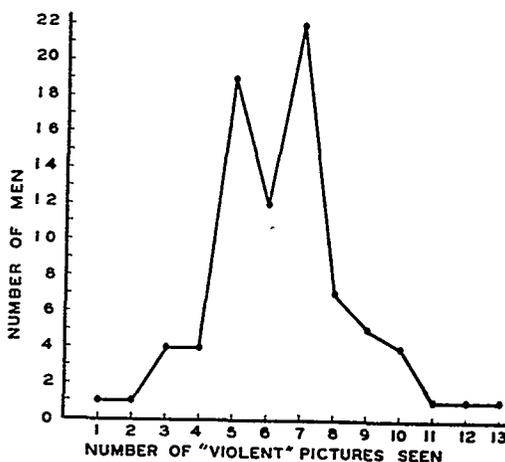


FIGURE II  
DISTRIBUTION OF VIOLENCE PERCEPTION  
SCORES (N = 81)

portion of the distribution. The arbitrary cutting point selected for this purpose was a score of 9, which falls one standard deviation above the mean. Eleven men had obtained scores of 9 or above and qualified on this basis for inclusion in the test group. Each of these 11 individuals was matched with a control subject for age and race.

The ages of the test and control groups ranged from 19 through 25; of each group of 11, 8 were White and 3 Negro. The control group averaged slightly lower intelligence scores than the test group. The basic data on family situation and past criminality seemed remarkably homogeneous. The majority of subjects in both groups had indications of broken and unsupervised homes; almost all subjects had records of juvenile arrests and convictions. The test scores for the control group ranged from 1 through 5, the mean score being 3.9.

### *Correlation With Other Measures*

The Table accompanying this paper presents the results of the attempt to differentiate the test and control groups by means of the other measures used. As can be noted from inspection, the evaluation of projective drawings did not impressively distinguish the groups. There is a tendency for the test group to give more assaultive themes in TAT protocols and to be rated by staff as making a poorer adjustment in camp as compared with the control group. However, this tendency is slight. The Rorschach differentiated the two groups more sharply than any of the other measures. Nine out of 11 subjects in the test group produced more

assaultive elements than their controls. The test group accumulated a total of 72 assaultive themes, as against 39 in the control group. These were predominantly in the content area.

#### *Institutional Adjustment of Test and Control Groups*

Did the subjects in the test and control groups behave differently from each other subsequent to testing? The data appear to answer this question affirmatively, at least in the context of the institution.

Several weeks after the experiment, two inmates "walked away" from the institution. (This is a very rare occurrence for the camp.) The escapees fell second and fourth in scores among the test group. As further observation time elapsed, five other members of the test group were transferred to the reformatory or prison. At the conclusion of the study, *seven out of eleven* high scorers had thus failed. Only *one* of the control subjects failed to make adequate institutional adjustment.

It must be emphasized that the personnel responsible for disciplinary transfers had no access to violence perception scores. Their own ratings of the men (see Table) were not strikingly related to these scores.

#### *Case Studies*

Because the test and control groups seemed to differ in their institutional behavior, and because there appeared to be relatively little relationship between the test scores and the other measures obtained from the subjects, their case records were subjected to more intensive examination. Basic data available in these records were excerpted, and reasonably parallel case studies constructed.<sup>16</sup> The following are excerpts from the summaries obtained for the top two test subjects and their matched controls:

##### Test Subject 1 (Score = 13)

"Everyone from police officers to relatives have described DED as a chronic liar, a completely untrustworthy person, a young man who 'does not profit from experience' and who 'gives very little thought to the consequences of his actions.'

"The mother relates that ever since the boy was eight or nine, 'when she and her husband wanted to go anywhere they didn't dare leave

<sup>16</sup> Since records differ in the inclusiveness of their coverage, our information is more complete for some subjects than others. Both the test and control groups contain summaries varying in comprehensiveness.

him at home with the other children because he always fought and quarrelled with them so much it disrupted their whole fun.'"

##### Control Subject 1 (Score = 3)

"FER has been described as an 'innocent victim of several tragic events.' His case history contains the following account: 'His father was killed in World War II when he, the subject, was six years old. The mother remarried a few years later and in 1954 the stepfather, with whom the subject had established a satisfactory relationship, was killed in an accident. Shortly after the death of the stepfather the family home was destroyed by fire, and in 1956 the subject was shot in the back with a shotgun by a drunken assailant. He was hospitalized for several months with very serious wounds.'

"His mother reports having little control over him. In school he is remembered as 'polite,' but there is also mention of poor companions and of his low IQ, which necessitated special instruction. Persons who have evaluated FE's personality have called him a 'very immature individual' who 'tends to rationalize' and who 'has failed to profit from experience.' A probation officer notes, however, that FE's actions tend not to be self-initiated, but are generally responsive to the influence of others."

##### Test Subject 2 (Score = 11)

"A propensity toward violence showed itself early in life. EL left school after many fights. He claims that most of these misunderstandings resulted from his doubts about his physical appearance, and from excessive drinking. He told a probation officer, however, that 'he was quite a fighter until he got his front teeth knocked out in a street fight.' In the Army, in addition to half a dozen AWOLs, EL was convicted of violence against an officer, of being drunk and disorderly, and of having an unauthorized pass in his possession. He received a Dishonorable Discharge after serving time in Disciplinary Barracks."

##### Control Subject 2 (Score = 3)

"A probation officer notes concerning JO's childhood, that 'it appears that the subject was an illegitimate child.' JO was raised by an alcoholic uncle and a 'very uncouth' aunt, three of whose children have accumulated criminal records. He also appears to have found school unpleasant. He was a frequent

TABLE  
PROJECTIVE TEST RESULTS AND STAFF RATING FOR TEST AND CONTROL GROUPS  
Test Group (N = 11) Control Group (N = 11)

Subject Test Group	H. T. P. General Evaluation	Rorschach Number of Assaultive Signs	TAT Number of Assaultive Themes	Rating by Staff	Subject Control Group	H. T. P. General Evaluation	Rorschach Number of Assaultive Signs	TAT Number of Assaultive Themes	Rating by Staff
T1	Assaultive	2	0	3	C1	Assaultive	10	2	3
T2	Assaultive	8	7	1	C2	Assaultive	6	2	3
T3	Not Assaultive	7	6	2	C3	Some Assaultive	1	0	3
T4	Assaultive	9	4	3	C4	Not Assaultive	0	8	2
T5	Not Assaultive	8	0	1	C5	Not Assaultive	2	2	4
T6	Some Assaultive	8	5	5	C6	Not Assaultive	5	3	4
T7	Assaultive	7	6	4	C7	Some Assaultive	3	1	1
T8	Some Assaultive	6	7	2	C8	Assaultive	9	3	4
T9	Assaultive	9	0	3	C9	Not Assaultive	3	0	3
T10	Assaultive	6	4	2	C10	Some Assaultive	0	2	3
T11	Not Assaultive	2	2	1	C11	Some Assaultive	0	8	2

truant, and his teachers describe him as a shy and withdrawn child. 'He used to take apples and lunch money with him to school to buy food for other children so that they would not beat up on him.'

"His wife depicts him as 'rather an ineffectual individual, tremendously naive, and in her opinion it is entirely possible that he had been implicated in a stolen car ring without knowing that the cars were stolen.' The wife also reports that JO had accumulated debts but would hide in a closet and let the wife deal with any attempts to collect."

#### DISCUSSION

This study was undertaken to explore the possibility of relating certain perceptual responses to adjustment in an institution for youthful offenders. It was speculated that if we obtain an indication of a person's readiness to perceive violence, we might at times learn about the relative presence in him of anti-social motives or predispositions. In other words, we argued that if a person tends to perceive violence more readily than most people, he might also tend to engage in anti-social conduct more readily than most people.

Did this prove to be the case? Did our instrument yield measures which could be related to anti-social actions? If it did, how far can this fact be generalized?

The results presented above are indeed encouraging. Particularly so, since the anti-social behavior of our high scorers occurred *after* testing, rather than

before. In instruments which pretend to gauge predispositions toward criminal behavior, it is important to demonstrate "predictive validity" rather than relying on "concurrent validity," which is more easily obtained.<sup>17</sup> Thus, a difference in violence perception scores between institutionalized offenders and matched control subjects, for instance, could have resulted from a variety of irrelevant factors, such as a difference in past experience with violence, the effect on perception of institutionalization, or a difference in "set" toward our experiment. As it stands, such possibilities are minimized, since the experimental and control groups derived from the same population and were selected purely on the basis of their scores.

The validity of our findings is also indicated by the fact that although certain factors in the selection process for the population *mitigated against* the instrument, the proportion of predictions confirmed was so high. It must be recalled that (1) the population of the camp in which testing occurred is relatively homogeneous, so that differential behavior would be minimized; and (2) certain crimes of violence, which would seem to have the greatest likelihood of being correlated with readiness to perceive violence, are excluded from the facility. Despite these facts, two-thirds of the high scoring group failed to adjust as compared with one out of ten control subjects, a proportion which is much closer to the average for the camp as a whole.

What can be affirmed with confidence, in other words, is that psychological dispositions related to

<sup>17</sup> Hanley, *supra* note 1.

the tendency to perceive violent pictures seemed to increase the likelihood of troublesome behavior. Experiments are being initiated to test the reliability of this finding. It remains to be determined whether high scorers in other populations will also present disciplinary problems, and it must yet be shown that long term predictions as well as short term predictions can be made.<sup>18</sup>

Long term predictions would presuppose that readiness to perceive violence is related to a consistent tendency to behave violently. It presupposes, in other words, a stable anti-social component of personality which manifests itself, among other ways, in sensitivity toward violence in the world, or in a relatively routine acceptance of it. A close examination of the case histories of our high scorers provided indications of such a personality trait. These persons seemed to have given early signs of a relative inability to control themselves, and of a tendency to actively express hostility and violence. The control subjects, by contrast, appeared to show greater tendency to be passively drawn into delinquency, or to demonstrate weakness and emotional immaturity.<sup>19</sup> Both

<sup>18</sup> We plan to obtain, through the cooperation of parole staff, a periodic evaluation of adjustment in the community of each of our subjects, until he is discharged from parole or returned. This information will be reported when available.

<sup>19</sup> The Research Division of the California Department of Corrections has confirmed these findings. Inmates obtaining relatively high violence perception scores were shown to have case histories with a significantly higher incidence of assaultiveness. Putoff,

groups in our population showed similar criminal and social histories. If anything, the control subjects seemed to have suffered more sustained deprivation, although the high scorers might have sustained acute traumatic experiences early in life to account for their precocious tendency toward active aggression. This would tend to place the high scoring subjects into the type of "unsocialized aggressive" delinquent described by Hewitt and Jenkins.<sup>20</sup>

The relative failure of conventional diagnostic techniques to distinguish between the two groups which differed in their institutional adjustment (and possibly also in their personality make-up) provides special justification for further exploration of the method. Relevant information appears to be obtained which is not easily available by means of other procedures.

Should further experimentation yield results as positive as those obtained in the present study, similar techniques could be devised and explored. If perception and behavior sometimes acquire a common direction from shared motives; perceptual tasks might prove useful adjuncts in the diagnostic process that must precede effective treatment and rehabilitation.

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The Perception of Violence as Related to a History of Violence (Mimeographed Report, CIM, April 27, 1962).

<sup>20</sup> HEWITT & JENKINS, FUNDAMENTAL PATTERNS OF MALADJUSTMENT, THE DYNAMICS OF THEIR ORIGIN (State of Illinois Monograph, 1946).