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CHANGES IN ATTITUDES AMONG DELINQUENT BOYS COMMITTED TO OPEN AND CLOSED INSTITUTIONS*

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Does the experience of institutional commitment affect the attitudes and life orientations of delinquent boys? Is the novel camp experience any better for boys, in terms of their mental outlook, than the more traditional school experience? In an attempt to shed some light on these questions, the authors tested for attitude changes among approximately 200 boys, half of whom were committed to a small, open work camp and half of whom were detained in a typical, closed correctional institution. This article details their findings and conclusions.—EDITOR.

BACKGROUND AND PROBLEM

The purpose of this study was to measure changes of attitudes, life orientations, and other cognitive variables as a result of the experience of living in Thistledeew Camp, as compared to changes which occur as a result of spending equivalent time in the Red Wing Training School. Both Thistledeew and the Training School are Minnesota institutions for boys committed for delinquent acts. The Camp is a small, "relaxed" place where the boys engage in productive work and where the personnel engage mainly in work supervision and counseling. The School is a typical correctional institution where the boys attend school, participate in some work and recreation, and where the personnel are mainly supervisory or instructive.

The boys were studied in those respects in which their Camp or School experiences might affect those attitudes and life orientations which are conceivably related to the fact that the boys are

* This study was made possible by a grant from the Youth Conservation Commission, State of Minnesota. Chairman of the Commission is A. Whittier Day. Arnold M. Rose directed the study in all its phases. Original stimulus and constant cooperation for the study came from George H. Weber, former director of the Division of Diagnosis and Treatment of the YCC. Directors of the cooperating institutions are Raymond Farrell and Donald Ward. Those who administered the questionnaires and scored them, with a great deal of effort and devotion, are Sam Skogsberg, Mrs. Robert Spille, and Mrs. Walter McGinnis. Assisting in the analysis were James Greeno and Frank Caro.

delinquent. In other words, the purpose of the study was to answer the questions "Did the commitment experience do the boys any good?" and "Is the novel camp experience any better for the boys, in terms of their mental outlook, than the more traditional school experience?"

Minnesota delinquent boys under the age of 18 committed by juvenile and probate judges to state institutions are committed to the custody of the Youth Conservation Commission and go first to the Reception Center at Red Wing. After a 6 to 12 week diagnostic study and a hearing by the Youth Conservation Commission, some boys are released on probation from the Reception Center, while the others are transferred to either Red Wing or Thistledeew.

Thistledeew is intended for the better adjusted and more stable boys who are not motivated to pursue an academic or vocational school program. But the need to fill the Camp quickly and the population pressure at the Training School resulted in deviations from the original intention. As a result, the Thistledeew boys are often quite similar to the Training School boys. On the whole Thistledeew tends to get the "moderately serious" cases while the more serious cases tend to be retained at the Training School.¹ Boys can be expected to spend

¹ The boys at Thistledeew Camp and at the Training School are thus not "matched." Our purpose in comparing them is to note *changes* in their attitudes and behaviors, and it is believed that changes may be compared even if the absolute levels on the scale scores may not properly be compared.

4 to 10 months at either the Camp or the School.

Thistledeew Camp is located in a state forest and game reserve. It was in its early phase of development during the period of this study. The boys helped build the camp by assisting the construction workers, and they generally enjoyed this experience. Since the conclusion of the construction period, but still included in the time of this study, the boys have been involved in a variety of activities such as planting trees, fighting forest fires, helping to build roads, and producing various wood products for the state parks. Some boys also work at "housekeeping" functions in the kitchen, laundry, or shop.

The maximum work-week is 40 hours, with evenings and weekends always free for other aspects of the program. The boys are paid a nominal sum (50 cents per work day) for their work. Some voluntary evening vocational classes are held in auto mechanics, woodworking, and welding. For recreation the boys can engage in a variety of organized sports and outdoor activities and watch TV and the weekly movie. They receive more counseling, on both an individual and group basis, than is usual at Red Wing Training School, although much of the counseling is casual rather than systematic. The Camp is "open"—that is, without walls or fences—but of course the boys are not expected to leave without special permission. There is a minimum of "prison atmosphere."

By contrast, the Red Wing Training School has a large, permanent physical plant located on the edge of a community of approximately 10,000 people. The School is guarded against access to the outside world. The program has many more aspects than that of the Thistledeew Camp: there is a full complement of academic and vocational courses with the accompanying facilities, equipment and staff; the indoor recreational activities, facilities, and equipment are more extensive; and the work assignments are more traditional. In this highly organized program, the emphasis is on vocational training rather than work. The School has been seriously overcrowded in the last several years, and hence there is a strain on the facilities.

A number of other researchers have attempted for other correctional institutions the same sort of task that we set for ourselves in this study—the measurement of changes in attitudes, outlook, and values as a consequence of a period of detention in an institution for juvenile delinquents. The main

conclusions of these studies will be considered briefly.

Studies done before 1954, which are summarized by Bernard Kirby,² were not carried out with rigorous attention to method and, in general, show no consistent and significant change as a result of a period of stay in an institution. More recent studies by Vernon Fox³ and Arthur Prell⁴ indicate improved adjustment as a result of counseling programs. The study most directly comparable to ours is that undertaken by Ashley Weeks on the delinquents committed to a special treatment program at Highfields, as compared to the juveniles committed to the regular reformatory of the State of New Jersey at Annandale.⁵ Part of Weeks' study showed that the Highfields boys—particularly the Negroes among them—had a lower rate of parole violation and recidivism than did the Annandale boys. But the part we are mainly concerned with is the study of changes on various attitude and personality tests. In this connection, the measures used by Weeks were eight scales on attitude toward family, attitude toward law enforcement, attitude toward authority, appraisal of self-confidence, acceptance of others, and attitude toward certain behavior norms. In general, he found little change in attitudes among both Highfields and Annandale boys, but more change among the Negroes than among the whites.

Our own study was slightly more successful than that of Weeks' in finding change in attitudes and values among the delinquent boys given special treatment (at Thistledeew) as compared to those going through the usual commitment for delinquents (at Red Wing).

TECHNIQUE OF STUDY

The evaluation of the difference in the effects of the two experiences on overall orientation toward life was carried out by means of an assessment of changes in attitude in a total of 17 areas. The attitudes or orientations selected for study had

² Kirby, *Measuring Effects of Treatment of Criminals and Delinquents*, 38 *SOCIOLOGY AND SOCIAL RESEARCH* 368 (1954).

³ Fox, *The Effect of Counseling on Adjustment in Prison*, 32 *SOCIAL FORCES* 285 (1954).

⁴ PRELL, *THE EFFECTIVENESS OF A PENAL TREATMENT PROGRAM AND ITS RELATION TO PAROLE BEHAVIOR* (unpublished thesis, University of Minnesota, 1956).

⁵ WEEKS, *YOUTHFUL OFFENDERS AT HIGHFIELDS* (1958). Also see McCORKLE, ELIAS & BIXBY, *THE HIGHFIELDS STORY* (1958), a similar study of the same institution.

been developed prior to this study and had been found to meet one or another set of the usual criteria for attitude scales. The scales are included in five instruments, four of which are standard among social psychologists. The fifth was a catch-all to bring in relevant measures that are not included in the standard instruments. The four standard instruments are referred to as the Cowan, the Kravaceus, the Thorpe, and the Washburne after their principal authors. The fifth is referred to as the Rose instrument because the author participated in the development of some of its constituent scales and pulled the others together from several diverse sources.⁶

Attitudes measured have been grouped into four areas: 1) attitudes toward external authority, 2) interpersonal relations and attitudes, 3) self-attitudes, and choice making, and 4) delinquency proneness. A total of 36 scales were used to measure the 17 specific attitudes included. The specific attitudes selected to tap overall adjustment and the scales chosen in turn to get at the specific attitudes are listed in Table I.

From the time that Thistledeew Camp opened in May, 1956, the five instruments were applied until a total of 114 Thistledeew boys and 102 Red Wing Training School boys had been tested before and after their reformatory experience. The first testing took place just before the boys were transferred from the Reception Center (they did not know at the time what their disposition was to be). The second testing took place just before they were paroled (they had not been told they would be paroled but they had had a parole hearing and they were aware that they were likely to be paroled). About a dozen of the Thistledeew boys had to be dropped from the study because they escaped (and when caught were sent to Red

Wing) or because they had to be transferred to the Red Wing Training School due to their unusually difficult behavior problems.

The instruments (questionnaires) were filled out by the boys themselves. They were administered by professional persons who were given special instruction in the purposes of this study.

Instructions given to the boys were designed to assure them that their responses would not be a part of their record, and that the only "right" answers were those that corresponded to their own opinions and feelings.

For purposes of analysis, each of the 36 separate scales which make up the 5 instruments was treated as a separate unit. The significance of the difference between the first and second test scores of each boy was computed by means of a *t*-test. To ascertain whether there are significant differences in changes between the two groups, the *t*-test was also used. In both cases the tests were two-tailed with differences accepted at the 5% level. Where it was of interest to compare the proportions of boys in each group scoring in a specific range of scores, a 2 × 2 chi-square test was applied—here, too, the 5% criterion of significance was used.

Several scores on the Washburne test were discarded because of unusually high scores on the *t* scale of that test, which, according to the test authors, indicate that the respondents tended to give answers which they felt were "desirable" from the point of view of the examiners, rather than expressing their true feelings.

FINDINGS

The mean changes in scale scores for both groups of boys and the differences between these group changes for each test scale are summarized in Table II, along with their corresponding *t* values and levels of significance. Interpretations of the attitudes and behavioral tendencies measured by each scale are based on comments made by the test authors and by an examination of the face-validity of the items with reference to their alleged attitude and behavior correlates.

I. ATTITUDES TOWARD EXTERNAL AUTHORITY

A. Attitudes Toward Non-Family Authority

Scale: Cowan E—"Non-Family Authority"

Positive responses on this scale are overt expressions of antisocial attitudes aimed toward teachers, law enforcement officers, and social authority in other forms. There was no significant

⁶The instruments used in the study are: "KD Proneness Scale," by William C. Kravaceus, World Book Company, Yonkers-on-Hudson, New York, 1953; "Mental Health Analysis—Intermediate Series," by Louis P. Thorpe and Willis W. Clark, California Test Bureau, Los Angeles, 1946; "The Cowan Adolescent Adjustment Analyzer," by Edwina A. Cowan, Wilbert J. Mueller, and Edna Weathers, Bureau of Educational Measurements, Emporia, Kansas, 1949; "Washburne Social-Adjustment Inventory (Thaspic Edition)," by John N. Washburne, World Book Company, Yonkers-on-Hudson, New York, 1940; "How I Feel About Things," by Arnold M. Rose, including items found in STOFFER AND OTHERS, MEASUREMENT AND PREDICTION 526-35 (1950), and in Harris, Clark, Rose & Valasek, *The Measurement of Responsibility in Children*, 24 Child Development 21 (March 1954). In the remainder of this report, the instruments will be referred to by the names of their principal authors.

TABLE I
ATTITUDE AREAS, SPECIFIC ATTITUDES, AND SCALES

- I. Attitudes toward External Authority
 - A. Attitudes toward nonfamily behavior
Scale: Cowan E—"Nonfamily Authority"
 - B. Reactions to supervision and limitations on behavior
Scale: Rose B—"Attitude toward Violation of Rules"
 - C. Attitudes toward Family
Scales: Cowan B—"Family Emotion"
Cowan C—"Family Authority"
 - II. Interpersonal Relations and Attitudes
 - A. Understanding and communicating with others
Scales: Thorpe A—"Close Personal Relations"
Thorpe B—"Interpersonal Skills"
Washburne S—"Sympathy"
Thorpe L—"Behavioral Immaturity"
Thorpe M—"Emotional Instability"
Washburne A—"Alienation"
 - B. Feelings of inadequacy
Scales: Cowan D—"Feelings of Inadequacy"
Thorpe N—"Feelings of Inadequacy"
Rose S—"Oversensitivity"
 - C. Sociability
Scales: Thorpe C—"Social Participation"
Rose Q—"Sociability"
 - D. Satisfaction in work and leisure
Scales: Thorpe D—"Satisfaction in Work and Leisure"
 - III. Self-Attitudes and Choice Making
 - A. Choice of immediate or long-term rewards
Scales: Washburne I—"Impulse Judgment"
Rose D—"Personal Interests"
 - B. Self control
Scale: Washburne C—"Control"
 - C. Planfulness
Scales: Thorpe E—"Adequate Outlook and Goals"
Washburne P—"Purpose"
Cowan J—"Immaturity"
 - D. Independence
Scale: Rose C—"Independence"
 - E. Happiness, personal adjustment
Scales: Washburne H—"Happiness"
Rose T—"Personal Adjustment"
 - F. Truthfulness
Scale: Washburne T—"Truthfulness"
 - G. Fear, worry
Scales: Cowan A—"Fear"
Rose R—"Worry"
Thorpe P—"Nervous Manifestations"
Thorpe O—"Physical Defects"
 - H. Social conscience
Scale: Rose A—"Me First"
 - I. Use of defense mechanisms
Scales: Cowan L—"Neurotic"
Cowan K—"Escape"
Cowan M—"Compensation"
 - IV. Delinquency Proneness
Scales: Kravaceus KD—"Delinquency Proneness"
Rose E—"Weak Personality"
-

TABLE II

MEAN CHANGES IN SCORE, FIRST TO SECOND TESTING*

(Blanks under sig. level means that probability is greater than .9; R = Red Wing boys; T = Thistledeu boys; significant differences in boldface).

Scale	Mean Change	<i>t</i>	Significance level	Mean Change	<i>t</i>	Sig. level	Diff. in Am't of Change	<i>t</i>	Sig. level
	<i>Red Wing</i>			<i>Thistledeu</i>					
Rose "How I Feel About Things"									
A	+ .118	.703	.6	-.096	.556	.6	.214	.892	.4
B	+ .451	4.295	.001	+ .097	1.037	.4	.354	2.529	.02
C	-.108	1.000	.4	-.195	2.149	.05	.087	.621	.6
D	+ .255	2.198	.05	-.230	2.154	.05	.485	3.089	.01
E	+ .539	3.348	.01	+ .168	1.023	.4	.371	1.613	.2
Q	+ .020	.260	.8	+ .027	.346	.8	.007	.065	
R	+ .643	6.366	.001	+ .640	5.890	.01	.013	.087	
S	+ .735	3.341	.01	+ .099	.608	.6	.636	2.321	.05
T	+ .631	3.847	.001	+ .510	4.030	.001	.121	.585	.6
Cowan Adolescent Adjustment									
A	-.660	3.882	.001	-.605	4.082	.001	.055	.243	.9
B	-.570	3.098	.01	+ .193	1.091	.3	.763	2.992	.01
C	-.561	3.551	.001	+ .248	1.061	.2	.809	3.629	.001
D	-.780	4.561	.001	-.254	1.518	.2	.526	2.201	.05
E	-.680	3.820	.001	+ .219	1.288	.3	.899	3.654	.001
J	-.280	1.944	.1	+ .096	.593	.6	.376	1.725	.1
K	-.520	3.152	.01	-.167	.930	.4	.353	1.446	.2
L	-.580	3.295	.01	+ .009	.057		.087	2.506	.02
M	-.460	2.383	.05	+ .079	.453	.7	.539	2.073	.05
Washburne Social Adjustment									
T	+ .263	.333	.8	-2.951	3.083	.01	3.214	2.582	.02
H	-3.580	4.403	.001	-.095	.181	.9	3.485	3.503	.001
A	-6.671	4.887	.001	+ .976	.899	.4	7.647	4.392	.001
S	-3.321	1.210	.3	+3.786	3.985	.001	5.107	3.524	.001
P	-1.744	1.222	.3	+ .663	.528	.6	2.407	1.266	.3
I	+1.563	2.811	.01	+ .845	1.190	.3	2.408	2.684	.02
C	-4.417	4.615	.001	+ .262	.307	.8	4.679	3.585	.001
Thorpe Mental Health Analysis									
A	+ .630	1.529	.2	+ .570	1.763	.1	.060	.117	
B	+ .100	.309	.8	+ .542	1.762	.1	.442	.991	.4
C	-.080	.219	.9	-.259	.773	.5	.179	.362	.8
D	+ .730	2.068	.05	-.130	.405	.7	.860	1.807	.1
E	+ .240	.777	.5	+ .268	.730	.5	.028	.059	
L	+1.300	3.939	.001	+ .824	2.451	.02	.476	1.030	.4
M	+2.162	4.858	.001	+1.370	3.412	.001	.792	1.322	.2
N	+2.270	6.219	.001	+2.093	5.863	.001	.177	.348	.8
O	+1.202	3.275	.01	+1.102	3.012	.01	.100	.247	
P	+1.450	3.571	.001	+ .861	2.651	.01	.589	1.135	.3
Kravaceus "K-D" Delinquency Proneness									
	-2.796	3.669	.001	-1.429	2.171	.05	1.367	1.313	.2

* Plus and minus signs in this table indicate only direction of mean change from first to second testing. They do not show improvement or deterioration.

change in the mean score of the Thistledeew group on this scale, but the Red Wing mean decreased significantly ($P = .001$). The difference between the changes of the two groups is significant ($P = .001$).

These findings may be interpreted in a variety of ways. We would hesitate to adopt the interpretation that the more authoritarian setting at Red Wing would reduce anti-social attitudes toward authority figures. Our interpretation would be, rather, that the overt expression of these attitudes at Red Wing become more repressed, either consciously or unconsciously. That is, in this respect, there is no change at Thistledeew and a negative change at Red Wing, as a result of the detention. Repression of hostility toward authority figures have been found in other authoritarian institutions, and have been there associated with personal maladjustment.⁷

If anti-social attitudes are repressed in the institution, one may reason that they may reappear once the youths return to a more normal social environment. It is also possible that the Red Wing boys deliberately tend to give a good impression to the extent of misleading others and thus reduce their overt expressions of anti-social attitudes. If this is the case, it also indicates that they will have their conflicts and anti-social attitudes to cope with once they return to their communities. In either case, the data seem to indicate that the Red Wing group will be less able to deal with their own attitudes and conflicts regarding social authority when they return to a society in which such conflicts are bound to occur. No such tendency was demonstrated for the Thistledeew group.

B. *Reactions to Supervision and Limitations on Behavior*

Scale: Rose B—"Attitudes Toward Violation of Rules"

The items in this scale deal with behavior in accordance with social rules; positive scores indicate favorable (socially constructive) responses to a variety of social situations outlined in the test. The Red Wing group increased significantly in their scores on this scale ($P = .001$), and there was no significant change for the Thistledeew group. The difference between the changes is significant ($P = .02$).

⁷ Rose, *Conscious Reactions Associated with Neuropsychiatric Breakdown in Combat*, 19 *Psychiatry* 87 (February 1956).

Our interpretation of these data is identical with that for the preceding scale—namely that the change in scores for the Red Wing boys indicates increased repression of anti-social attitudes or perhaps manipulation of the test.

C. *Attitudes Toward Family*

Scales: Cowan B—"Family Emotion"

Cowan C—"Family Authority"

The items in these scales relate to conflicts in the boys' family life. Positively scored responses indicate an awareness that one is at odds with some aspect of his family life. Thus, a low score might indicate either a lack of such conflicts, a lack of awareness of existing conflicts, or a deliberate falsification of problems in this area. In this case there are significant decreases in the mean scores of the Red Wing group ($P = .01, .001$). These changes differ significantly from the tiny changes found in the Thistledeew group ($P = .01, .001$). Since it does not seem likely that family conflicts actually declined for the Red Wing boys, our interpretation is that the data show decreased awareness of family conflicts or a conscious tendency to avoid expressing them. In either case, the trend can be expected to contribute to the difficulty of the Red Wing boys' readjusting to their family life when they are paroled, since they will at that time be forced to deal with problems of which they have become less understanding. The more "normal" environment of the Thistledeew Camp may contribute to its inmates continuing to express, more realistically, their family conflicts.

II. INTERPERSONAL RELATIONS AND ATTITUDES

A. *Understanding and Communicating with Others*

Scales: Thorpe A—"Close Personal Relations"

Thorpe B—"Interpersonal Skills"

Washburne S—"Sympathy"

Thorpe L—"Behavioral Immaturity"

Thorpe M—"Emotional Instability"

Washburne A—"Alienation"

These related scales deal with, on the one hand, feelings that one has toward close, trusting associates, reports of working to understand and help others, and reports of success in communication and cooperative effort with others (Thorpe A and B, Washburne A). Both groups of boys made significant improvements on the Thorpe scales L and M, but all the Thorpe scales failed to discriminate between the changes in the two groups of boys. Both Washburne scales, however, showed signifi-

cant differences between group changes ($P = .001, .001$). Consistent with the Thorpe data, the Red Wing group improved on the A scale of "Alienation" ($P = .001$), while the Thistledeu group did not change significantly. Contrary to their improvement on the Thorpe A scale of "Close Personal Relations," the Thistledeu boys scored less favorably on the Washburne S scale of "Sympathy" ($P = .001$).

It appears that feelings of social isolation and alienation decrease in both groups. Perhaps these findings are not difficult to explain. Both groups of boys have been in situations where their associates are their peers, with whom they can more readily identify than with their more heterogeneous associates back in their home communities. Also, the social environment in these facilities, particularly the Training School, is well-structured and could be expected to reduce feelings of interpersonal conflict, since the boys know more clearly how they are expected to behave. At any rate, these improvements should be helpful to them.

The differences in the changes in scores on the Washburne scales are less easy to understand. Perhaps the greater decrease in feelings of alienation among the Red Wing boys is due to the more rigid structure of the Training School that regulates interpersonal relationships and thus tends to prevent strong feelings of alienation from becoming overt. (If none of one's associates has close personal ties with his fellows, one's own feelings of isolation may decrease.) On the other hand, at Thistledeu, where greater freedom and independence prevail, the environment allows greater opportunities for alienation. The decreased feelings of sympathy shown by the Thistledeu group may reflect the development of a social norm restraining sentimentality.

B. *Feelings of Inadequacy*

Scales: Cowan D—"Feelings of Inadequacy"
Thorpe N—"Feelings of Inadequacy"
Rose S—"Oversensitivity"

Most of the Thorpe items ask for reports on how others feel toward the respondent, while the Cowan and Rose items deal more with the subject's own feelings about himself in relation to other people. The Thorpe scale shows significant improvement for both groups ($P = .001, .001$) and no significant difference between the changes of the two groups. On the Cowan and Rose scales, the Thistledeu group did not change significantly,

but the Red Wing group showed an increase on both scales ($P = .001, .01$). The difference between the groups was significant for both of these scales ($P = .05, .05$).

These findings can perhaps be accounted for in terms of the selected reference groups available to the boys during their commitment. They are less likely to feel inferior to others who are being subjected to the same treatment, and who have problems similar to their own. The greater improvements among the Red Wing boys might be due to a greater feeling of commonality and a lesser degree of individuality in the social environment. If the reference group is, in fact, the primary factor operating here, then it is doubtful that the changes seen in these scores will carry over significantly to the normal social environment.

C. *Sociability*

Scales: Thorpe C—"Social Participation"
Rose Q—"Sociability"

These items relate to social activities of various kinds, and are phrased in terms of factual statements as to whether the respondent takes part in certain activities. There is no significant change in either group, nor is there a significant difference between the groups' changes. These scales were included in the study to check on any possible change in orientation toward participation as a result of detention, but apparently there is no change in this respect.

D. *Satisfaction in Work and Leisure*

Scale: Thorpe D—"Satisfaction in Work and Leisure"

Positively scored items in this scale indicate that there are work or leisure activities which the subject finds enjoyable or satisfying. The Red Wing boys improved significantly on this scale ($P = .05$). Perhaps this could be due to their perceiving the social requirements in the Training School environment as less demanding. (One might gain more satisfaction when he more closely approaches the social expectations.) The improvement might be an asset to the Red Wing group on parole. The small change in the Thistledeu group is not statistically significant.

III. SELF ATTITUDES AND CHOICE-MAKING

A. *Choice of Immediate or Long-Term Rewards*

Scales: Washburne I—"Impulse-Judgment"
Rose D—"Personal Interests"

The Washburne I scale involves choices between trivial, immediate rewards and greater, or more

permanent rewards which are withheld for a time. The Rose D scale appears to measure attitudes closely related to this kind of choice, which involve the influence of immediate emotional responses such as fear or thrill over the subjects' choices.

An unfavorable change was seen in the Thistle-dew group on the Rose scale (.05), indicating freer expression of desires for excitement—particularly if the expression should be for anti-social excitement. The Thistle-dew group showed no significant change on the Washburne scale.

The Red Wing means improved significantly on both scales ($P = .01, .05$), and the boys might be helped by this after their parole.

The differences between the changes are significant ($P = .05, .01$). It may be that this difference indicates that the Red Wing group is deprived of immediate gratification of personal needs more than are the boys at Thistle-dew. Thus, being deprived of immediate social rewards, the Red Wing boys tend to derive satisfaction from looking ahead. They therefore develop a greater toleration for delay in reward—at least while they are still in the institution.

B. *Self-Control*

Scale: Washburne C—"Control"

These items deal primarily with the degree to which the boys report that they carry out their personal plans and ambitions.

The Thistle-dew group did not change significantly on this scale. The Red Wing boys improved significantly ($P = .001$). The difference between the groups' changes is significant ($P = .001$).

This finding may result from the definite organization of the social environment at Red Wing. Two aspects of this structure might well influence a boy's "control" as defined in this scale. First, his life is scheduled for him in a way which ensures that he will carry out his program—whether or not this is the result of his own volition. Secondly, in this framework the boys in Red Wing lack opportunities to formulate their own personal decisions and plans. Both of these factors could well influence an increase in "control" which, if sustained, would help them achieve success on parole.

C. *Planfulness*

Scales: Thorpe E—"Adequate Outlook and Goals"

Washburne P—"Purposes"

Cowan J—"Immaturity"

There are no significant changes on these scales,

nor are there significant differences between the groups' changes. The scales contain items relating not only to planfulness and foresight, but also to commitments to general cultural values such as honesty, equality, democracy, and individual initiative. It was thought desirable to ascertain whether the detention experience involves any changes of this general type, and the evidence seems to indicate that it does not.

D. *Independence*

Scale: Rose C—"Independence"

These items deal with working and thinking without leaning on others, dominance, and lack of punishment for behavior.

The Thistle-dew boys' lower score on the second testing ($P = .05$) may indicate a greater tendency to rely on each other which develops while the boys are in the Camp. There is, however, no significant change in the Red Wing boys, nor between the groups' changes.

E. *Happiness, Personal Adjustment*

Scales: Washburne H—"Happiness"

Rose T—"Personal Adjustment"

Both of these scales reflect a feeling of general well-being. On the Washburne H scale, the Red Wing group improved significantly ($P = .001$), while the Thistle-dew group did not change significantly. The difference between the groups' changes is significant ($P = .001$). On the Rose T scale, both groups improved significantly ($P = .001, .001$), and there is no significant difference between the groups' changes. These changes would suggest that the boys are better prepared to adjust on parole.

The difference found in feelings of happiness on the Washburne scale might be accounted for in terms of the boys' feelings of security in the stable social environment of the Training School.

F. *Truthfulness*

Scale: Washburne T—"Truthfulness"

These items are designed to test the reliability of the responses on the other scales of the Washburne test. On this scale only the Thistle-dew group improved significantly ($P = .01$), and the difference between the groups' changes is significant ($P = .02$).⁸ This finding is probably due to the Thistle-dew boys working out more of their prob-

⁸ This finding lends some support to our consideration that the Red Wing boys may have given socially acceptable answers to some test items in order to give a good impression.

lems of expressing themselves openly than the Red Wing boys did, and if this is the case it should help them to adjust on parole.

G. *Fear, Worry*

Scales: Cowan A—"Fear"
 Rose R—"Worry"
 Thorpe P—"Nervous Manifestations"
 Thorpe O—"Physical Defects"

These scales all relate to anxiety. Both groups improve significantly on all four scales ($P = .01$ or $.001$). There are no significant differences between the groups' changes.

These findings are probably related to the fact that at the time when the boys are committed, at the time of the first test, they have undergone a series of disturbing experiences and are anticipating an unfamiliar and unpleasant experience. In addition, the social environment in both the School and Camp is more stable than that in the outside situation from which they have come and each facility affords some opportunities to work out their problems; these factors may also contribute to the reduction of anxiety. Being somewhat more free of anxiety might help the boys meet their problems on parole.

H. *Social Conscience*

Scale: Rose A—"Me First"

Items in this scale involve attitudes related to broad social and international issues which on the whole are quite remote from the day-to-day experience of adolescents. No significant differences were found for either group. In planning the study, it was thought desirable to ascertain whether there might be changes in attitudes on broad-scale, general issues of this sort, but here again the evidence seems to be that there are no changes in general attitudes toward remote matters.

I. *Use of Defense Mechanisms*

Scales: Cowan L—"Neurotic"
 Cowan K—"Escape"
 Cowan M—"Compensation"

The Cowan L scale is made up of items related to a miscellaneous collection of neurotic symptoms. Scales K and M are more specific, relating to withdrawal behavior and compensatory activities.

On the average, the Red Wing group's scores decreased significantly on all three of these scales ($P = .01, .01, .05$). There was no significant change

in the scores of the Thistledeew boys. Significant differences between the groups' changes were obtained for scales L and M ($P = .02, .05$) but not for scale K.

According to the test authors, the average scores are of little significance, and the important figure is the proportion scoring below the 16th percentile on the normal distribution. A Chi Square test was carried out on the proportions of boys in each group scoring below the 16th percentile on each testing for each of the three scales. The test authors interpret scores below the 16th percentile as indicating that the subject has marked personal and neurotic problems and does not have adequate personal mechanisms to cope with them. They point out that individuals having such characteristics experience serious difficulties when they come under increasing stress—such as might be the case when the boys return to civilian society. While the proportion of boys in the Thistledeew group scoring in this range did not change significantly, the proportion of boys in the Red Wing group increased significantly in all cases ($P = .05, .01, .01$). Thus, only the experience at Red Wing demonstrably increases the boys' neurotic problems and decreases the boys' ability to utilize important psychological mechanisms which would enable them to cope with stress situations.

The Red Wing changes probably result from a lack of individualization in the program and of opportunities for the boys to work out their problems through counseling.

IV. *DELINQUENCY PRONENESS*

Scales: Kravaceus KD—"Delinquency Prone-ness"
 Rose E—"Weak Personality"

The KD scale is made up of items which were formed to discriminate between delinquents and non-delinquents. It is comprised largely of attitude and preference items, with a few value-oriented items worded in factual form (such as: "People who do well are . . ."). The Rose E scale consists of items which relate to authoritarianism, and which are similar to some of those found in the KD scale.

On both scales, the Red Wing group improved significantly ($P = .001, .01$). Among the Thistledeew boys, there was significant improvement only on the KD scale ($P = .05$). Differences between the groups' changes were not significant. On the basis of these scores alone, we would predict a

greater proportion of recidivism in the Thistledeu group than among boys who were kept at Red Wing.

DISCUSSION AND CONCLUSION

The purpose of this study was to ascertain whether delinquent boys undergo significant changes, as measured by a battery of paper-and-pencil tests, as a result of their commitment to two kinds of institutions—one a typical training school (Red Wing Training School) and the other a minimum-security work camp (Thistledeu Camp). The initial testing of the boys took place shortly before the YCC transferred them to the School or the Camp. The final testing occurred just before the boys were paroled from the School or Camp but before they were informed officially that they were to be paroled. Since test data are not available on the boys after they were paroled, it is possible only to speculate as to the degree to which the changes demonstrated in this study have influenced their later behavior.

The areas of attitude and trait measurement are listed in Table III, along with indications as to significant differences which were obtained. In no area was there clear and consistent evidence of an unfavorable change in attitudes for the Thistledeu group. In three areas there was *inconsistent* evidence that the Thistledeu boys changed for the worse:

(1) *Understanding others*

Of the three scales used (Thorpe A and B, and Washburne S) only one showed a significant unfavorable change. The mean scores on the other two scales did not change significantly, although the change in scores was in the direction of improvement ($P = .1, .1$).

(2) *Choice of immediate or long-term rewards*

Here, again, the evidence is contradictory. While there was a significant unfavorable change on the Rose D scale, the other scale (Washburne I) showed no significant change. The direction of the trend, however, was favorable ($P = .3$).

(3) *Independence*

While the Thistledeu boys' scores changed toward less independence, it is not clear that such a change is unfavorable. A greater cooperative reliance on one's fellows might, in some contexts, prove to be a favorable change in personality.

Four areas showed significant changes in the favorable direction. Of these, only one—truthfulness—was a change for the Thistledeu group significantly different from that of the Red Wing group. It seems likely that this change was a function of increased confidence in the boys' supervisors, but it is uncertain whether this influence will carry over to other adults outside the institution. In one area—understanding others—the direction of the change in the Thistledeu group seems to depend upon the subtlety of the items used to measure the trait. It seems probable that the more subtle items reflect a change which is more likely to endure, and that it is more likely that the Thistledeu boys improved in this respect, although not significantly more than did the Red Wing boys. In social conscience, the Thistledeu boys improved while the Red Wing boys did not, although the differences are not significant.

The other areas in which the Thistledeu boys improved are in personal adjustment, fear and worry, nervous manifestations, emotional instability and behavioral immaturity, and the subtle items dealing with feelings of inadequacy. In these areas, the Red Wing boys were also significantly improved, and there was no significant difference between the groups.

In eleven areas the Red Wing group showed significant improvement. In four of these—happiness, choice of immediate or long-term rewards, oversensitivity, and self-control—this was significantly different from the Thistledeu group's change. In the other areas, either the difference between groups was not significant or different scales gave contradictory indications of group difference.

In four areas, the Red Wing group showed significant changes which have been interpreted here as being unfavorable. Their awareness of violation of rules, of conflicts with authority and with their families has decreased, as has their tendency to use effective psychological defense mechanisms. Had the scores on these scales been high, such changes would indicate favorable development. But with the boys' awareness of the first three problems already at a low level, their decreased awareness indicates a psychic removal from their problems which will make it more difficult for them to readjust to a normal social environment. The same is true for the decreased tendency to use psychological defenses where these resources have become less available to the boys but where they will need such resources—

TABLE III

SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN FIRST AND SECOND TESTING AND SIGNIFICANT DIFFERENCES BETWEEN GROUPS' CHANGES IN TRAITS, ATTITUDES, AND DELINQUENCY PRONENESS AS MEASURED IN THIS STUDY

(Significant changes indicated by scale name; blanks indicate no evidence of significant change.)

Trait	Red Wing		Thistledeew		Scales Showing Significant Differences between Group Changes
	Scales Showing Favorable Change	Scales Showing Unfavorable Change	Scales Showing Unfavorable Change	Scales Showing Favorable Change	
I. Attitudes toward External Authority					
A. Attitudes toward nonfamily behavior		Cowan—E			Cowan—E
B. Reaction to supervision		Rose—B			Rose—B
C. Attitudes toward family		Cowan—B Cowan—C			Cowan—B Cowan—C
II. Interpersonal Relations and Attitudes					
A. Understanding and communicating with others	Washburne—A Thorpe—L Thorpe—M		Thorpe—L Thorpe—M Thorpe—N	Washburne—S	Washburne—A Washburne—S
B. Feelings of inadequacy	Cowan—D Thorpe—N Rose—S				Rose—S
C. Sociability					
D. Satisfaction in work and leisure	Thorpe—D				
III. Self-attitudes and Choice Making					
A. Immediate or long-term rewards	Washburne—I Rose—D			Rose—D	Washburne—I Rose—D
B. Self control	Washburne—C				Washburne—C
C. Planfulness					
D. Independence				Rose—C	
E. Happiness, Personal adjustment	Washburne—H Rose—T		Rose—T		Washburne—H
F. Truthfulness			Washburne—T		Washburne—T
G. Fear, worry	Cowan—A Rose—R Thorpe—P Thorpe—O		Cowan—A Rose—R Thorpe—P Thorpe—O		
H. Social conscience					
I. Use of defense mechanisms		Cowan—L Cowan—K Cowan—M			Cowan—L Cowan—K Cowan—M
IV. Delinquency Proneness	Kravaceus—KD Rose—E		Kravaceus—KD		

especially when they are sent back to deal with problems from which they have been separated for a time.

The degree to which these changes reflect

lasting personality developments is problematic. Many of the traits and attitudes measured by the tests are closely related to the subject's feelings toward his associates—and his social setting in the

Camp or Training School is, of course, very different from the social setting in which he will behave when he is released.

But there is reason to believe that the few changes in the attitudes of boys at Thistledeew may be more lasting than those of the Red Wing group. They have not significantly decreased their awareness of the conflicts which they had before they were apprehended, and they have not significantly diminished their ability to use defenses when they are faced with such conflicts. Thus, while the changes of attitudes among the Thistledeew boys do not appear to be as great as those of the Red Wing group, it may be that they will have a greater effect on their behavior after they are released.

In conclusion, the boys at Thistledeew did not change in the direction of acquiring anti-social attitudes. Their positive gains seem to be that they feel relatively less insecure and more happy and

well-adjusted. No changes were seen in their scores related to responsibility, self-control, planfulness, or independence. There is some doubt as to whether they improved in feeling personally adequate or in understanding and communicating with other people. Yet the net result of the Camp experience is that it is, relatively speaking, a success. The net effect of the Red Wing Training School experience also seems to be positive, although in other—possibly less permanent—ways than the Thistledeew Camp experience.

It would seem that the Thistledeew boys' greatest need lies in the area of developing responsibility and independent initiative along socially acceptable lines. Programs might be devised so that the boys develop habits of independent planning—both for themselves and for group activities.