



1953

The Picture Frustration Study as an Index of Aggressive Behavior in Juvenile Delinquents

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**THE PICTURE FRUSTRATION STUDY AS AN INDEX
OF AGGRESSIVE BEHAVIOR IN
JUVENILE DELINQUENTS**

by

Francis Bernard Petrauskas

**A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Master of Arts**

June

1953

LIFE

Francis Bernard Petrauskas was born in Waukegan, Illinois, March 5, 1920.

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CHAPTER I

INTRODUCTION

It is the purpose of this paper to investigate the effectiveness of the Children's Form of the Rosenzweig Picture-Frustration Study¹ as an objective and valid measure of overt, externally directed aggression by comparing the aggressive behavior of institutionalized delinquents and their scores on the test itself.

Training schools are frequently confronted with the seriously mal-adjusted boy who will not conform to the institution program, who upsets the general morale, is unusually aggressive, exploits his position, and is influential in suggesting the same type of behavior to others. His presence often makes the existence of other children in the same group a risk, or at least reduces the chance to develop the type of program and style of child care from which the others would benefit. The large routine structure of institutions only feeds his persecutory interpretation of life. Also, his inability to be grateful toward friendly adults or to take punishment in his stride and learn from it, soon makes him hated and isolated by everybody, other children as well as adults. Unfortunately, the detection and isolation of this type

1 Saul Rosenzweig, Edith Fleming, and Louise Rosenzweig, "The Children's Form of the Rosenzweig Picture-Frustration Study", The Journal of Psychology, 26, 1948, 141-191.

of boy takes place only after he has exerted his influence on those with whom he lives.

While intake screening procedures are frequently employed and diagnoses made by the various members of the clinical team, prediction of their behavior within the institutional setting is not too frequently successful. This is partially due to the limited amount of time assigned for routine examinations and partially to the limited amount of professional personnel qualified to assess the delinquent's personality. The usual psychiatric interviewing techniques and psychological methods are limited for essentially the same reasons.

Until recently there have been few methods whereby the differences in aggressive reactions could be measured rapidly and objectively. Saul Rosenzweig² in 1948 published a Children's Form of the Picture-Frustration Study which was an adaptation of an earlier form limited to adults. It similarly was designed to measure the direction of aggression and the type of reaction to frustration. It was felt that this objective measure, if shown to be valid would enable those working within an institutional setting to quickly, simply, and adequately screen the hostile, aggressive boy from the others.

Since the test is said to measure the direction of aggression, it is expected that a positive and significant relationship will be found to exist between Extrapunitive reactions or E percentage scores on the test--those in which aggression is turned out upon the environment, and the boy's overtly

2 Ibid.

aggressive and hostile behavior in the institutional setting.

CHAPTER II

REVIEW OF THE LITERATURE

The concept of frustration as applied to problems of normal and abnormal psychology has stimulated much discussion within the last ten years. It has not been possible, however, to define frustration in a clearcut manner and isolate it from other psychological processes. A survey of some of the more discriminating definitions which have been advanced for frustration may point out some of the similarities and points of disagreement. G. Murphy, L. Murphy, and T. Newcomb,³ refer to frustration as occurring when a strongly motivated individual meets interference with his specific goal-directed activity. O. H. Mowrer defines it as "a state of affairs against which the affected individual's energies are more or less strongly mobilized, which he seeks to eliminate, or if possible, to entirely avoid".⁴ J. Dollard, L. Doob, N. Miller, O. Mowrer, and R. Sears, say that "Frustration is the condition existing in the organism when a goal-response suffers interference to its occurrence at the proper time in the behavior sequence. Operationally defined, frustration

³ G. Murphy, L. Murphy, and T. Newcomb, Experimental Social Psychology, New York, 1937.

⁴ O. H. Mowrer, "Some Research Implications of the Frustration Concept as Related to Social and Educational Problems", Character and Personality, 7, 1938, 129-139.

may be said to exist if the organism could have been expected to perform certain acts and if these acts have been prevented from occurring."⁵ Maslow concluded that "perhaps frustration as a single concept is less useful than the two concepts which cross-cut it, deprivation and threat to the personality. Deprivation implies much less than is ordinarily implied by the concept of frustration; threat implies much more".⁶ Frank⁷ attempted to apply the concepts of Lewin's psychology to psychiatric concepts and concluded that a conflict situation results when a person is forced to remain under the influence of opposing vectors of equal strength. Frustration is a special type of conflict situation which occurs when a person is prevented by a barrier from carrying out his desires. Sherman⁸ considers frustration as "emotional disorganization which results from interference with a systematized effort to solve a problem. Frustration does not occur when an activity, with which there has been interference is of little importance." P. Young⁹ uses the term frustration "to designate any kind of blocking or thwarting of a motive, and the term conflict to refer to those forms of frustration in which two or more mo-

5 J. Dollard, L. Doob, N. Miller, O. Mowrer, and R. Sears, Frustration and Aggression, New Haven, 1939.

6 A. Maslow, "Conflict, Frustration, and the Theory of Threat", Journal Abnormal and Social Psychology, 38, 1943, 81-86.

7 J. D. Frank, "Individual Differences in Certain Aspects of the Level of Aspiration," American Journal Psychology, 47, 1935, 119-128.

8 M. Sherman, Basic Problems of Behavior, New York, 1941.

9 P. T. Young, Emotions in Man and Animal, New York, 1943.

tivating factors are involved". A. F. Zander¹⁰ has enlarged upon the definition of the Yale school. "Frustration is that condition which exists when a response toward a goal believed important and attainable by a given person suffers interference resulting in a change in behavior characteristics for that person and situation." Sargent has recently advanced the hypothesis that frustration results in a behavior sequence characterized by the stages of "frustration, emotion, habit or mechanism, and overt behavior."¹¹ S. Rosenzweig¹² states that "frustration occurs whenever the organism meets a more or less insurmountable obstacle or obstruction in its route to the satisfaction of any vital need". He distinguishes between the frustrating situation and the reactions of an individual to frustration. Also, he considers the stimulus functioning as a frustrating one to have arisen from privations, deprivations, or conflicts, either of an external or internal nature. These states ranged "all the way from mild craving or unconsummated drive to more acute interference with satisfaction by thwarting, to sudden and extremely shocking or traumatic experiences".¹³ The present investigation will view frustration from this point since the testing measure employed is based on this approach.

10 A. F. Zander, "A Study of Experimental Frustration", Psychological Monograph 56, 1944, 256.

11 S. S. Sargent, "Reactions to Frustration: A Critique and Hypothesis" Psychological Review, LV, 1948, 108-114.

12 In J. McV. Hunt, Personality and the Behavior Disorders, S. Rosenzweig, "An Outline of Frustration Theory", New York, 1944.

13 S. Rosenzweig, "The Significance of Frustration as a Problem of Research", Character and Personality, 7, 1938, 126-135.

This investigation deals only with aggressive behavior as a reaction to frustration. According to Symonds¹⁴ there are four meanings to the term aggression. In its first sense, aggression means self-assertiveness, vigorous activity. The second meaning is to gain possession, either of another person or of an object. It refers particularly to an act of appropriation when it meets opposition. Aggression in its third meaning signifies an act of hostility, attack, and destruction. The essence of this meaning is the act which injures another person, either directly or indirectly, either his person or his possessions. In this meaning, aggression arises as resistance to control by others and represents violence and destructiveness. The fourth meaning of aggression refers to an act of control, dominance, or management of another person or groups of persons. Aggression as used in this study will refer primarily, but not exclusively, to aggression in the third sense, that is, as an act of hostility aimed at injuring another person. This essentially, is Rosenzweig's definition of the term.¹⁵

Dollard and his collaborators¹⁶ are amongst the first investigators that have attempted to establish a causal relationship between frustration and aggression by postulating that aggressive behavior always presupposes the ex-

14 P. Symonds, Dynamic Psychology, New York, 1949.

15 S. Rosenzweig, E. Fleming, and L. Rosenzweig, "The Children's Form of the Rosenzweig Picture-Frustration Study", The Journal of Psychology, 26, 1948, 141-191.

16 J. Dollard, L. Doob, N. Miller, O. Mowrer, and R. Sears, Frustration and Aggression, New Haven, 1939.

istence of frustration, and likewise, the existence of frustration always leads to some form of aggressiveness.

A good many investigations supported this early hypothesis. Sears, Hovland, and Miller¹⁷ had two groups of college students undergo severe frustrations while depriving them of sleep for twenty-four hours. An attempt was made to record their hostility through specially designed paper and pencil tests. The authors concluded that observation of the spontaneous aggressive behavior offers more promise than these tests.

Frederiksen¹⁸ with the help of a series of standardized test situations, found that the amount of frustration resulting from adult interferences was positively related to the amount of negativistic behavior exhibited by young children. Burton¹⁹ considering satiation a form of frustration, watched the behavior of a group of pre-school children who were satiated with repetitious peg insertion. He concluded that the aggression observed in the sated children verified Dollard's postulate that aggression is always a consequence of frustration.

Doeb and Sears,²⁰ co-authors of "Frustration and Aggression" wrote

17 R. Sears, C. Hovland, and N. Miller, "Minor Studies of Aggression", I. Measurement of Aggressive Behavior", Journal of Psychology, 9, 1940, 275-294

18 N. Frederiksen, "The Effects of Frustration on Negativistic Behavior in Young Children", Journal Genetic Psychology, 61, 1942, 203-226.

19 A. Burton, "The Aggression of Young Children Following Satiation", American Journal of Orthopsychiatry, 12, 1942, 262-267.

20 L. Doeb, and R. Sears, "Factors Determining Substitute Behavior and the Overt Expression of Aggression", Journal Abnormal and Social Psychology, 34, 1939, 293-313.

an article in the same year in which the book was published, modifying the one-to-one relationship between frustration and aggression, and suggesting that in many frustrating situations it is difficult to find evidence of either substitute responses or overt aggression in the behavior of the frustrated person.

Barker, Dembo and Lewin²¹ found that regression frequently follows frustration. They first gave two to five year old children some attractive toys, and later returned the subjects to their previous collection of less inviting toys while the better ones were left in sight behind a barrier of wire netting. They found marked changes in mood and emotional expression, as well as regression occurred, reflected in the lower constructiveness of the children's play in using the older toys. Barker²² pointed out that frustration may also have stimulating effects. "Frustration may result in a reduction or in an increase in the efficiency of the cognitive abilities in general. Which of these effects is obtained depends upon the nature of the needs and actions involved, the strength of the forces, and the properties of the particular perceptual-cognitive motor system." Britt and Janus²³ in their conclusions stress the multiplicity of reactions to frustration. "Reactions to frustration may be aggression, withdrawal, regression, resistance, anger, guilt and remorse, shame

21 R. Barker, T. Dembo, and K. Lewin, "Frustration and Regression: an Experiment with Young Children", University of Iowa Studies in Child Welfare, 18, 1941, 314.

22 R. Barker, "The Effect of Frustration Upon Cognitive Ability", Character and Personality, 7, 1938, 145-159.

23 S. Britt and S. Janus, "Criteria of Frustration", Psychological Review, 47, 1940, 451-459.

and embarrassment."

According to Sargent²⁴ emotion is the core of reaction to frustration. If no emotion is aroused, there is no frustration, at least not in any psychological sense. This agrees rather well with Rosenzweig's interpretation. In studying reactions to frustration, we must be concerned not with what is objectively present, but instead with what the individual emphasizes or reads into the situation according to his personality needs and traits. Responses to frustration are varied and do not necessarily eventuate in aggression.

Since the publication of the Children's Form of the Picture Frustration Study, there have been no published investigations dealing with the validity and reliability of the instrument. "The clinical indications of validity derived from individual use of the instrument are promising but systematic results must await the completion of a study now in progress on a group of children ranging in age from four to eight".²⁵ According to Rosenzweig, from preliminary indications it is expected that the reliability will resemble that of the Adult Form with correlation coefficients of .60 to .80 derived from re-test scores.

In an unpublished paper, Angelino²⁶ reported an investigation of the validity of the Children's Form of the Picture Frustration Study. He adminis-

24 S. Sargent, "Reactions to Frustrations: A Critique and Hypothesis", Psychological Review, 55, 1948, 108-114.

25 S. Rosenzweig, E. Fleming, and L. Rosenzweig, "The Children's Form of the Rosenzweig Picture-Frustration Study", The Journal of Psychology, 26, 1948, 141-191.

26 H. Angelino, "The Validity of the Children's Form of the Rosenzweig Picture-Frustration Study", Unpublished, University of Oklahoma, 1953.

tered the Study to two hundred and seventy-two children between the ages four and thirteen and had teachers rate their overt activity on a specially constructed questionnaire which contained situations similar to those on the P-F Study. He found no significant difference between the E percentage scores on the Study and the teacher's ratings. Children involved in disciplinary cases for delinquent activity generally obtained lower E percentage scores than the average for the group. He concluded that there is a need for more evidence of its usefulness and that it cannot be validly used in its present form.

Several investigations regarding the validity and reliability of the Adult Form of the Picture Frustration Study have been reported. Lindzey²⁷ employed the Study in the attempt to determine the effect of frustration upon performance and also attempted to compare the results obtained with comparable results from the Thematic Apperception Test. Using a small sample of twenty subjects, he administered the Study along with other psychological devices at the beginning and again two months later following a frustrating social situation. He found that the extrapunitive score on the P-F Study increased significantly (.05) following the frustrating experience and the extrapunitiveness as measured by the P-F Study failed to correlate with the same dimensions as measured by the Thematic Apperception Test. Franklin and Brozek²⁸ applied the test to thirty-six men who volunteered for a semi-starvation-rehabilitation

27 G. Lindzey, "An Experimental Test of the Validity of the Rosenzweig Picture-Frustration Study", Journal of Personality, 18, 1949, 315-321.

28 J. Franklin and J. Brozek, "The Rosenzweig P-F Test as a Measure of Frustration Response in Semistarvation", Journal of Consulting Psychology, 13, 1949, 293-302.

experiment. The test was administered during the twenty-fourth week of the semistarvation and again twelve weeks later following nutritional rehabilitation. A reliability coefficient for extrapunitive of .86 was obtained. While the authors indicated that clear differences were evident between the starvation and the improved diet, conditions in intensity, direction, and type of frustration, they concluded that for this test questions of validity, what the test measures, and to what extent, and those of reliability involving both group and individual inter-item and inter-subject variability remain largely unanswered. Summing their investigation, they stated, "the findings question the validity of the Rosenzweig Picture Frustration test. Until it more adequately meets the requirements of an objective instrument, the P-F test should not be used routinely in diagnostic and clinical work, but should be restricted to exploratory and experimental use."

Albee and Goldman²⁹ investigated the use of the Adult Form as a "Predictor of Overt Aggression". Sixty-five psychotic patients were given the test and the inter-relationships between the overt behavior recorded on the ward and the E and I percentage scores which purport to measure extrapunitive and intro-punitive responses to frustration were examined. They separated the patients into two groups on the basis of their E and I percentage scores on the test. Those patients whose E percentage scores placed them above the third quartile in the percentage norms for normal subjects, as published by Rosenzweig, were

29 G. Albee and R. Goldman, "The Picture-Frustration Study as a Predictor of Overt Aggression", Journal of Projective Techniques, XIV, 3, 1950, 303-308.

called extrapunitive and those patients whose I percentage scores fell above the third quartile of the same norms were called intropunitive. Accident and injury reports on the ward were used as the criterion for the expression of overt aggression since this was relatively objective data obtained by the nurses at the time of the injury. By combining the dichotomy based on the high E percentage and I percentage scores with the dichotomy based on the direction of overt aggression, a correlation in the form of a phi-coefficient was computed to estimate the degree of relationship existing between a projective test and recorded evidence of behavior. The relative efficacy of the projective data and the objective data in predicting outcome of treatment was the second comparison made. Using their own criteria of clinical improvement, Chi-Squares were computed between the dichotomy based on overt aggression and clinical improvement-unimprovement and between the dichotomy based on the P-F and clinical improvement and unimprovement. This permitted the determination of the relative power of prediction for the two sources of data on aggression. They found that the phi-coefficient of .09 between the two P-F scores and the direction of overt aggression is negligible and not significant. "The present study did not find a relationship between high E percentage and I percentage scores of patients on the Picture Frustration Study and the direction of aggression which the patients exhibited on the wards as determined by accident and injury reports."

In reviewing the literature on frustration, aggression, and investigations concerning the Picture Frustration Study, Adult and Children's Forms, it appears that there are no conclusive indications in any of the areas although

some trends are evident. With regard to the concept of frustration, there is a good bit of disagreement as to its nature, however, there is some tendency to see it as resulting from an obstruction in goal-directed behavior. Aggression was seen by the early investigators as the solitary and most important consequence of frustration. The so called "frustration-aggression hypothesis" was formulated which stimulated much comment, investigation, and criticism. Since then, the hypothesis seemingly has been rejected in favor of a multiplicity theory, that is, reactions to frustration are varied, aggression being only one type of response among a number of others. The Adult and Children's Form of the Picture Frustration Study were designed as measures of reaction to frustration. Since the publication of the Children's Form, there have been no published investigations dealing with its validity and reliability. The Adult Form has been the object of several investigations, however, there has been no consistency in the results. Some support the theoretical basis of the test, others indicate that the device is not valid or reliable.

CHAPTER III

DESIGN OF RESEARCH

The present investigation was designed in the following way. The Children's Form of the Rosenzweig Picture Frustration Study was used as a measure of reaction to frustration. Since the I and M percentage scores have a limited practical value, only E percentage scores were considered. Punishment as administered and recorded by the Disciplinarian was taken as an objective indication of overt aggression. The Product Moment method of correlation was utilized as a measure of relationship existing between E percentage scores on the test and overt aggressive activity, since it is felt that the accumulated data lends itself better to this form of statistical analysis.

The Picture Frustration Study is said to be a device for evaluating a person's characteristic modes of reaction to everyday situations of frustration and stress.³⁰ According to Rosenzweig's definition of Extrapunitiveness, that is, aggression turned out upon the environment, persons with high E percentage scores would be expected to react in an overtly aggressive manner to situations and persons surrounding them, when frustrated. It is the purpose of this investigation to evaluate the validity of this statement specifically

³⁰ S. Rosenzweig, L. Bundas, K. Lumry and H. Davidson, "An Elementary Syllabus of Psychological Tests", Journal of Psychology, 18, 1944, 9-40.

by relating the E percentage scores of juvenile delinquents on the Children's Form of the Picture Frustration Study to their aggressive activity within an institutional setting, which has necessitated disciplinary measures.

The Children's Form of the Picture Frustration Study is a limited projective test consisting of a series of twenty-four cartoon-like pictures³¹ each representing two persons who are involved in a mildly frustrating situation of common occurrence. The figure at the left of each picture is shown saying certain words either which frustrate the other individual or help describe what is frustrating him. The subject is instructed to examine the situations one at a time and write in the blank space the first reply that enters his mind as likely to be given by the anonymous figure.

Scores are assigned each response as to direction of aggression and type of reaction. Under direction are included extrapunitive--in which aggression is turned out upon the environment; intropunitive--in which aggression is turned in upon the subject himself; and impunitive--in which aggression is turned off, that is, evaded in an attempt to gloss over the situation. Under type of reaction fall obstacle-dominance--in which the presence or the nature of the barrier occasioning the frustration is emphasized in the response; ego-defense--in which protection of the ego predominates; and need-persistence--in which the solution of the frustrating problem stands out. From the combination of these six categories there results for each item nine possible scoring factors. Definitions of the factors together with the symbols

31 Appendix I.

conventionally employed in scoring are given in Appendix II. Either a single or a combined factor score is given each response and the frequencies with which these factors appear in the record are calculated.

"It is assumed as a basis for interpreting the Picture Frustration Study that the subject unconsciously or consciously identifies himself with the frustrated individual in each pictured situation and projects his own bias in the replies given."³² Percentages of total extrapunitive, intro-punitive, and impunitive, and of obstacle-dominance, ego-defense, and need-persistence show the degree to which he tends to employ these modes of reaction in his everyday behavior. The subject's responses are also compared as to score with the criteria from a large normative group. The extent to which the subject's results agree with the expectations is expressed as a Group Conformity Rating. This rating affords one basis for judging social adjustment. Any consistent trends in sequence of the individual responses are also noted for their significance in revealing the subject's reactions to his own previous behavior.

The test was administered over a period of six months to two-hundred and fifty delinquent boys committed to the Illinois State Training School for a variety of reasons, by the numerous juvenile courts throughout the state. Table I on the following page gives the reasons for commitment for the one-hundred and three cases used in the study.

32 S. Rosenzweig, Psychodiagnosis, New York, 1949, 168.

TABLE I
OFFENSES OF DELINQUENT BOYS
LEADING TO COMMITMENT

<u>Offense</u>	<u>No. Committed</u>
Arson	2
Attempted Assault	4
Burglary.	25
Cashing Check	1
Contributing to Delinquency of Minor.	1
Incorrigible.	18
Larceny of Car.	16
Narcotics	5
Robbery	9
Runaway	3
Sex Offense	3
Shooting.	1
Stealing.	10
Street Fight.	1
Truancy	4
Total	103

The P-F Study was given in groups which ranged in size from five to fifteen boys with standard group instructions for the instrument being read at each administration. Upon completion of the testing, the records were placed in alphabetical order after which every other one was selected for the experiment. Of the one-hundred and twenty-five records selected, twenty-two were rejected at the time of the scoring because the protocols were either incomplete or the responses were unintelligible. One-hundred and three cases were retained for the study. The ages of the boys ranged chronologically from ten years and three months to seventeen years, with a mean chronological age of fifteen years and one month. Seventy boys in the group were white and

thirty-three colored. The records were scored for aggressive patterns by the standard Rosenzweig P-F procedure. In responses not fitting the scoring criteria and samples, a second worker then independently scored these doubtful instances and where disagreement occurred, a conference decided the final score. Since it was not feasible to do an exhaustive study of all the possible inter-relationships between P-F scores and the recorded behavior, the present study deals only with one P-F score, the E, which purports to measure extra-punitive responses to frustration. In that the degree and intensity of this score is stated to be an indication of externalized aggression, the present study can be considered an estimate of the ability of this device to give data useful as an index of overt behavior.

Within an institutional setting, particularly the ones concerned with delinquents, control of aggressive behavior is essential. For this reason, various forms of punishment are utilized depending upon the nature of the aggressive activity. At the Illinois State Training School for Boys, three principle forms of punishment are in use. According to the nature and gravity of the infraction, a boy can be placed in the punishment cottage where he is isolated from the general institutional routine and confined for a period up to thirty days; he can be placed on Work Detail for a period of five days or less, which involves performing various kinds of work about the institution; or he could be denied the privilege of attending a movie during the week in which the infraction occurs.

While these forms of punishment seemingly are graduated in order of severity and are viewed administratively in this manner, there was some question with regard to this, since from the individual boy's viewpoint, experience

has shown that this is many times not the case. Some delinquents, for example, consider the loss of a movie a more serious form of punishment than confinement to the punishment cottage or placement on Work Detail. Others have no desire to attend a movie but are very fearful of isolation or dislike working. Individual motivations vary depending on the conscious and unconscious needs of the boys.

Since there was some question with regard to these various levels of punishment, it was felt that an objective evaluation should be obtained from those people who are in closest contact with the boys and are frequently involved in the consideration of disciplinary measures. The following rating scale was submitted to thirteen professional people who are directly or indirectly concerned with both the understanding of the delinquent's needs and the assessment of punishment:

"The following forms of punishment are in use in the institution: Work Detail, Loss of Movie, Pierce. Rate in the order 1-2-3 what you believe is their relative severity."

1. _____

2. _____

3. _____

All raters were agreed that confinement to the Punishment cottage (Pierce) was the most serious form of punishment. Nine felt that placement on Work Detail was second in severity, while four felt that the Loss of Movie was more serious than placement on Work Detail. These results were then found to be consistent with the institution's operational procedure with regard to the administration of discipline.

Since it was planned to relate not only the various levels of punishment to the Extrapunitive scores on the Picture Frustration Study, but also the total punishment score to the Extrapunitive scores, the raters were given another rating scale in order to determine the value and degree of severity of the various forms of punishment. The rating scale read as follows:

"Now that you have rated the three forms of punishment in order of their relative severity, indicate to what degree you think one form is more severe than the other. Rate on a continuous scale of 1-5, keeping in mind that 1 means, Very mild punishment; 2 Mild; 3 Moderate; 4 Severe; 5 Very severe."

1. Loss of Movie _____

2. Work Detail _____

3. Pierce _____

The following mean values were obtained: Pierce 4, Work Detail 2.5, and Loss of Movie 2. These values were taken to indicate that placement in the punishment cottage is twice as severe as loss of movie and slightly less than twice as severe as assignment to Work Detail. Time on Work Detail was evaluated as .5 times more severe than Loss of Movie. These values were assigned to and included in the calculation of the three forms of punishment received by each boy and in the total amount of punishment received by each individual.

A word might here be added about the administration of punishment in the institution. Any aggressive activity on the part of the boy which is directed against persons or things in his environment and is in violation of the routine institutional procedure is punishable by either of three principle ways, Loss of Movie, placement on Work Detail, or isolation in the punishment

cottage. Whenever an infraction of a regulation occurs, the Disciplinarian is notified and action is taken by him. If the infraction is slight or moderate in nature the Disciplinarian arbitrarily decides whether the boy will lose his movie privileges for the week or be placed on the Work Detail. If the infraction is serious, the boy is taken to the isolation cottage where punishment is assigned by a Court consisting of four employees. The type of punishment assigned for violation of an institution regulation is not defined rigidly but is left to the discretion of the Disciplinarian or the Court, the decision being based not only on the circumstances involved but also on the needs of the boy. Psychological factors being considered equally with the ascertained facts generally prohibits the use of standardized punishment measures for closely defined violations of institution regulations.

Following a period of eight months in the institution, the disciplinary records of each boy were checked at the Disciplinarian's office and all the infractions along with the amount of punishment received were noted. The results were taken down in each case in terms of the severity of punishment received, namely, confinement in the punishment cottage, assignment to Work Detail, and Loss of Movie. Also the number of times and days a boy was given a particular form of punishment was recorded for each category. Since the amount of punishment received in terms of days is determined arbitrarily by the Disciplinarian and the Punishment cottage Court, and is highly variable, it does not lend itself to adequate and meaningful statistical analysis. For this reason, only the number of times a boy was punished with regard to the various levels of severity is here presented and considered. The weights or

values for each level of punishment as determined by the professional staff were then included and a final sum obtained. The following table illustrates the tabulation on each boy regarding the degree and amount of punishment received:

TABLE II

SAMPLE TABULATION OF THE TYPE AND AMOUNT
OF PUNISHMENT RECEIVED IN EACH OF
ONE-HUNDRED AND THREE CASES

Type of Punishment	Times	Days	Weight	Weighted Times	Weighted Days
Pierce	2	28	4	8	112
Work Detail	10	21	2.5	25	52.5
Loss of Movie	2		2	4	
Total				37	

CHAPTER IV

ANALYSIS OF DATA AND RESULTS

The objective of this investigation is to determine the relationship between the E percentage scores on the Picture Frustration Study and the delinquent's aggressive behavior in the institution. The E percentage scores obtained by the one-hundred and three boys are presented in Appendix III, Table III. The frequency distribution of these scores is presented in Table IV.

These two tables indicate that the E percentage scores in the one-hundred and three cases range from a low of thirteen percent to a high of ninety-six percent, with a mean of 49.56. The Standard Deviation is 15.66. The distribution is approximately normal.

Since there are three principle forms of punishment in the institution administered, it was felt that a correlationship between the E percentage scores and each level of punishment might be obtained along with a final correlation between the E percentage scores and the total amount of punishment received by each boy. The number of times each boy was placed in the punishment cottage along with the weighted values is presented in Appendix III, Table V. A frequency distribution of these values is presented in Table VI.

Since the distribution of scores is not normal and it was desired to use the Product Moment method of correlation, it was necessary to first

normalize the distribution before this method could be utilized and accurate results obtained.³³ The raw scores were converted to T scores and are presented in Appendix III, Table VII.³⁴

The T scores were then substituted for the raw scores and a Product Moment coefficient worked out which yielded the following results: Mean 50.3, Standard Deviation 8.5, a correlation of $-.08$, and a Probable Error of $.01$.

The obtained figures indicate that there is a negative and negligible relationship between the E percentage score on the Rosenzweig Picture Frustration Study and overt aggressive activity in the institution involving the most serious form of punishment, that is, confinement in the punishment cottage.

The statistical data on the second level of punishment, Work Detail, is considered next. The number of times each boy was put on Work Detail as a result of some aggressive activity is presented in Table VIII, Appendix III. A frequency distribution of these scores is presented in Table IX.

Since the scores again were not normally distributed, it was necessary to normalize the distribution before the Product Moment coefficient could

33 J. Guilford, Fundamental Statistics in Psychology and Education, New York, 1950. "The most important requirement for the legitimate use of the Pearson r is that the trend of relationship between Y and X be rectilinear, in other words, a straight line regression." "...when one or both distributions are badly skewed....one solution would be to normalize the skewed distribution". p.170.

34 H. Garrett, Statistics in Psychology and Education, New York, 1950. "The method consists essentially in "normalizing" the distribution of test scores. This is done by transforming original test scores into equivalent measures in a normal distribution. Equivalent scores are defined as measures which indicate the same levels of ability." p.149.

be validly utilized. Table X, Appendix III, gives the conversion of the raw weighted Work Detail scores into T scores.

After substituting the obtained T scores for the raw scores, a Product Moment coefficient was worked out which gave the following results: Mean 50.2, Standard Deviation 9.5, $r +.06$, and Probable Error .07.

These figures indicate that there is no significant relationship between the E percentage scores obtained on the Rosenzweig Picture Frustration Study and overt aggressive activity in the institution involving the second level of punishment, placement on Work Detail.

The third and least serious form of punishment, Loss of Movie and it's relationship to the E percentage scores on the Picture Frustration Study was considered next. The number of times each boy lost a movie plus the assigned weighted value is presented in Appendix III, Table XI. The frequency distribution for these figures is given in Table XII. Since it is not normally proportioned, it necessitates the conversion of raw scores to T scores before a valid correlationship could be obtained. Table XIII gives the conversion of raw scores to T scores.

The following results were obtained after substituting the T scores for the raw scores: Mean 49.7, Standard Deviation 8.5, $r -.02$, Probable Error .07.

The results here indicate that there is no significant relationship between the E percentage scores obtained on the Rosenzweig Picture Frustration Study and overt aggressive activity involving the third level of punishment, Loss of Movie.

The last correlationship to be obtained is between the E percentage

scores and the total amount of punishment received by each boy. The total punishment score includes the number of times a boy was placed in the Punishment cottage, the number of times he was placed on Work Detail, and the number of times Loss of Movie was involved as a disciplinary measure. These figures include the weighted values assigned to them as determined by the professional staff members. The weighted scores representing the total amount of punishment received by each boy are presented in Table XIV, Appendix III. A frequency distribution of these scores is given in Table XV.

The distribution for the total amount of punishment received by each boy represents a J curve rather than a normal curve. This was the case for the three specific forms of punishment. In the previous instances, however, the raw scores were changed into T scores to normalize the distribution before obtaining the correlationship. In considering the relationship between the E percentage scores and the total amount of punishment, the conversion of raw scores to T scores is no longer necessary since this was already done for each of the three specific forms of punishment. If the average value of the three T scores for the three levels of punishment is taken, it represents a normal distribution of the total amount of punishment received. The mean T scores were then utilized in determining the relationship between E percentage scores and the total amount of punishment. The Product Moment r was used with the following results: Mean 49.9, Standard Deviation 7.5, r $-.08$, Probable Error $.01$.

There was some question, however, in using the average value of the three T scores as representative of the total amount of punishment received. It was felt that the added or combined value rather than the average might be

a more accurate representation of the total amount of punishment. A Product Moment r was worked out between the E percentage scores and the three T scores added together. An r of $-.04$ with a Probable Error of $.06$ was obtained. These figures are essentially the same as those found when the T scores were averaged.

The results indicate that there is a negative relationship between the Extrapunitive percentage scores on the Children's Form of the Rosenzweig Picture Frustration Study and the total amount of punishment received by a boy because of overt aggressive activity in the institution.

To check the results of the statistical analysis by means of the Pearson Product Moment method of correlation, the data was also analysed by the Point Biserial method. The data lends itself to this type of analysis and the results are generally taken to be good approximations to Pearson's r .³⁵

The E percentage scores were taken as the continuous variable and the punishment scores as the dichotomous one. The dichotomy consisted of those who received punishment of some sort as against those who received no punishment. The following results were obtained: between E percentage scores and isolation in the Punishment cottage, an r_{pb1} of $+.03$; between E percentage scores and Work Detail, $+.05$; between E percentage scores and Loss of Movie, $+.02$; between E percentage scores and total amount of punishment received, $+.17$.³⁶

³⁵ J. P. Guilford, Fundamental Statistics in Psychology and Education, New York, 1950. "When one of the two variables in a correlation problem is a genuine dichotomy, or when it is doubtful that the dichotomous one stems from a normal distribution, the appropriate type of coefficient to use is the point biserial r ." p.328.

³⁶ Ibid. "To the knowledge of the author no standard error formula has been developed for r_{pb1} ." p.329.

These results are consistent with those obtained by means of the Pearson Product Moment formula and again point to a lack of any significant relationship between overt aggressive activity and Extrapunitive responses on the Rosenzweig Picture Frustration Study.

The findings of the present investigation are consistent with those obtained by Albee and Goldman in their study with the Adult Form, and indicate that Extrapunitive responses on the Children's Form of the Picture Frustration Study cannot be taken as a valid indicator or measure of overt, aggressive activity which may be turned against persons or things in one's environment. In addition, the results would seem to indicate that Rosenzweig's assumption basic to the P-F Study, namely, that the subject unconsciously or consciously identifies himself with the frustrated individual in each pictured situation and projects his own bias in his replies, is not tenable or valid under present circumstances. It is possible that clinical interpretation of the data might result in a more meaningful separation of cases and a greater degree of relationship. However, whether a more global interpretation of the P-F scores or different criteria could have produced different results is beyond the scope of the present study.

While Rosenzweig's classification of reactions to frustration seems meaningful and useful in experimental investigation, it is possible that a paper and pencil test may not, for a number of reasons, be entirely adequate to elicit responses which can be accepted as predictions of behavior.

The scoring system of the P-F Study assumes identification with one particular figure. The possibility exists, however, that the subject may identify with the frustrating individual rather than the one frustrated.

The contention that subjects are projecting onto the drawings without knowing that they are revealing something about themselves is also difficult to accept. According to the writer's experience, there were a number of occasions during the administration of the Study, in which a boy would verbally indicate his resistance to participation in the test because he did not desire to reveal his reactions to situations pictured in the Study. In these instances, the responses were made with no degree of seriousness and attempts were made to consciously distort their reactions.

It is likely that some individuals can be very aggressive in a situation involving line drawings and quite different in a flesh and blood social context; or the converse, can be quite conforming on the non-ego involving test and uncontrolled in real life. It appears that some children live out most of their aggressions in fantasy life, and adjust to cultural and parental pressures by avoiding expressions of hostility in real life situations. Sanford³⁷ correlated the needs expressed in fantasies with overt behavior. All his correlations were low, which he explains as indicating that the presence of a need in a subject's fantasies does not involve the manifestation of this need in overt behavior. His correlation between fantasy and overt aggression was .15.

Bach³⁸ in studying the fantasy of children found that both the overtly destructive-aggressive child and the child characterized in his daily behav-

37 R. Sanford, "Physique, Personality, and Scholarship", Monograph of the Society for Research in Child Development, 8, 1943, 125-365.

38 G. R. Bach, "Young Children's Play Fantasies", Psychological Monograph 59, 1945, 69.

ior by the absence of overt aggression showed the same amount of fantasy aggression, whereas less extreme, the normally aggressive child showed less thematic aggression than did either of the two extremes.

The lack of reliability in the measurement of frustration may be due to a variety of factors which affect the subject's response in a laboratory situation. Since one must assume that every individual has a specific threshold of frustration, it is evident that many factors which are not observed or measureable may significantly affect the scores on a given task or problem. For example, in order that a given barrier or failure be conducive to frustration, the material presented must be interpreted by the subject as significant for his everyday adjustment. Also, frequently, it is important to consider the presentation of some degree of success before the failure situation is presented. Otherwise, the individual will immediately become defensive and therefore non-frustratable.

Korner³⁹ concludes that the fact that no inference could be made regarding a child's hostile behavior in real life on the basis of observing his play, challenges many assumptions in clinical practice, confirms previous research, and invites wider verification. In the light of the present findings, if generally applicable, one cannot safely estimate from the hostility or aggression expressed in behavior as determined by the punishment reports, how a boy may react on the Picture Frustration Study, or infer from his fantasies how he may react in real life situations.

39 A. F. Korner, Some Aspects of Hostility in Young Children, New York, 1949.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this paper was to investigate the validity of the Children's Form of the Rosenzweig Picture Frustration Study as an objective measure of overt, externally directed aggression by comparing the aggressive behavior of institutionalized delinquents with their Extrapunitive responses on the test itself. Because of the problems that the aggressive boy presents in an institutional setting, this study could prove to be of value if it could be shown that a positive and significant relationship exists between the Extrapunitive scores on the test and overt aggressive behavior in the institution.

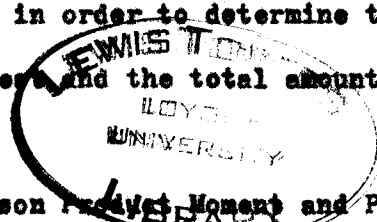
A review of the literature indicates that the concept of frustration is not a unified one and that many investigators are not in agreement regarding its nature and meaning. It appears that a common element running through most investigations in this area, is that frustration tends to result from an obstruction in goal-directed behavior. Aggression was seen by the early investigators as the most significant consequence of frustration. The frustration-aggression hypothesis was formulated stimulating much comment, investigation, and criticism. Since then, the hypothesis seemingly has been rejected in favor of a multiplicity theory, wherein reactions to frustration are seen as being highly varied and complex. The Children's Form of the Picture Frustration Study is one of the few projective devices directly con-

cerned with frustration and reactions to it. Little work, however, has been done with this test. There have been no published investigations dealing with it's validity and reliability. Some attempts have been made to study the validity and reliability of the Adult Form with varying results.

This investigation utilizes the Children's Form of the Study. It was administered to two-hundred and fifty delinquent boys who were committed to the Illinois State Training School for Boys by the various courts throughout the state. Every other protocol was selected for the study. Of these, twenty-three cases were rejected because the protocols were not complete or the writing was illegible. One-hundred and three cases were retained for the investigation. The records were scored according to Rosenzweig's method and Extrapunitive percentage scores were obtained for each case.

Following a period of eight months in the institution, all punishment administered to each boy was obtained from the records in the Disciplinarian's office. Thirteen professional staff members rated the various forms of punishment and concluded that placement in the Punishment cottage (Pierce) was the most serious form of punishment administered. A mean value of 4 was assigned this level of punishment. Work Detail was considered to be the next most serious form of punishment with a mean value of 2.5. Loss of Movie was considered the least serious form of punishment with a mean value of 2. These values or weights were included in the tabulation of punishment scores for the three levels of punishment. This was necessary in order to determine the relationship between E percentage scores on the test and the total amount of punishment received by each boy.

In the statistical analysis, the Pearson Product Moment and Point



Biserial methods were used to determine the degree of relationship existing between Extrapunitive scores on the test and punishment scores. The following results were obtained by the Pearson formula: between E percentage scores and isolation in the Punishment cottage, a correlation of $-.08$ with a Probable Error of $.01$. The relationship between E percentage scores and Work Detail was found to be $+.06$ with a Probable Error of $.07$. An r of $-.02$ with a Probable Error of $.07$ was obtained between the Extrapunitive percentage scores and Loss of Movie privileges. For the relationship between E percentage scores and the total amount of punishment received by each boy, a figure of $-.08$ was obtained with a Probable Error of $.01$.

As a check on the above results, the Point Biserial method of correlation was employed with the following results: between E percentage scores and isolation in Pierce, an r of $+.03$; between E percentage scores and Work Detail, an r of $+.05$; between E percentage scores and Loss of Movie, an r of $+.02$; between E percentage scores and total amount of punishment received, an r of $+.17$. These findings are essentially the same as those obtained by the Product Moment formula.

The results indicate that no relationship exists between a boy's Extrapunitive responses on the Children's Form of the Picture Frustration Study and his overt aggressive activity which necessitates the administration of some form of punishment. In view of this, it appears that Rosenzweig's assumption that the subject consciously or unconsciously identifies with the frustrated individual on the test is not tenable under present circumstances.

The findings in the present investigation are consistent with the results obtained in several studies of a similar nature employing the Adult

Form of the Picture Frustration Study.

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APPENDIX I

DESCRIPTION OF THE TWENTY-FOUR PICTURES

1. A girl who is reaching into a cupboard for something is being told by a woman that she gave "the last one" to the girl's brother.
2. A girl is forbidding a boy to play with her scooter which he is riding.
3. While seated at their desks alone in a schoolroom a boy is explaining to a girl that he did not mean to tell on her.
4. A woman is telling a boy that she does not know how to fix his truck.
5. A man is explaining to a girl as they stand in front of a store window that if he were rich he could buy for her the doll at which they are looking.
6. One of two bigger boys is saying to a smaller boy that the latter is too little to play with them.
7. A woman is reprimanding another girl for picking her flowers.
8. One girl is reproaching another for having broken her nicest doll.
9. One of two boys playing on the floor is explaining that he has won the game and that the objects on the floor are his.
10. A woman is expressing regret to a girl for having had to punish her.
11. A man is telling a boy to be quiet since his mother wants to sleep.
12. One boy is calling another a sissy.
13. A man has one of three boys by the arm and is exclaiming that this time he has caught him. (presumably stealing fruit from his orchard)

14. A man demands of a boy sitting on a chair in another room that he explain what he is doing.

15. A woman standing at the head of some stairs is asking a boy who lies at the bottom whether he has hurt himself.

16. A woman standing beside a young child is telling an older girl that the baby should not have taken her ball.

17. Two parental figures standing beside the bed of a child explain that they are going out and that the child will have to go to sleep.

18. A girl is saying to a boy that she is not going to invite him to her birthday party.

19. A woman with a small boy beside her is reprimanding an older boy for having wet his bed and accuses him of being more of a baby than his little brother.

20. A boy is apologizing to another boy for having pushed the latter's marble by mistake.

21. A girl on a swing is telling another girl that she is planning to keep the swing all afternoon.

22. As a child enters a classroom the teacher states that he is late.

23. A woman serving a boy at a table expresses her regret that the soup is cold.

24. A librarian is telling a boy that his hands are not clean and that he must wash them before he can take a book.

APPENDIX II

DEFINITIONS OF THE ELEVEN SCORING FACTORS

E' The presence of the frustrating obstacle is insistently pointed out.

I' The frustrating obstacle is construed as not frustrating or as in some way beneficial; or, in some instances, the subject emphasizes the extent of his embarrassment at being involved in instigating another's frustration.

M' The obstacle in the frustrating situation is minimized almost to the point of denying its presence.

E Blame, hostility, etc., are turned against some person or thing in the environment.

E In this variant of E the subject aggressively denies that he is responsible for some offense with which he is charged.

I Blame, censure, etc., are directed by the subject upon himself.

I A variant of I in which the subject admits his guilt but denies any essential fault by referring to unavoidable circumstances.

M Blame for the frustration is evaded altogether, the situation being regarded as unavoidable; in particular the frustrating individual is absolved.

e A solution for the frustrating situation is emphatically expected of someone else.

i Amends are offered by the subject, usually from a sense of guilt to solve the problem.

m Expression is given to the hope that time or normally expected circumstances will bring about a solution of the problem; patience and conformity are characteristic.

APPENDIX III

TABLE III

E PERCENTAGE SCORES OF ONE-HUNDRED AND THREE BOYS
ON THE PICTURE-FRUSTRATION STUDY

58	50	96	13	35	46	42	83	56	58	63	59	65	56	58
42	38	41	52	23	50	50	67	58	33	44	58	38	48	46
67	40	44	60	52	52	40	54	42	19	48	52	29	56	40
63	35	48	50	19	17	33	71	46	56	50	46	35	50	81
67	48	42	27	46	46	35	67	42	58	35	43	60	88	42
38	56	63	42	38	54	40	44	69	54	42	54	44	73	63
92	54	50	25	25	26	63	31	38	58	44	63	63		
TOTAL														103

APPENDIX III

TABLE IV
FREQUENCY DISTRIBUTION OF E
PERCENTAGE SCORES

<u>Class Interval</u>	<u>No.</u>
90-99	2
80-89	3
70-79	2
60-69	15
50-59	29
40-49	29
30-39	13
20-29	6
10-19	4
0-9	0
TOTAL	103

APPENDIX III

TABLE V

NUMBER OF TIMES (WEIGHTED) EACH BOY
PLACED IN PUNISHMENT COTTAGE

0	8	12	0	8	32	8	12	4	0	12
16	8	4	0	8	8	20	0	8	0	4
4	4	0	4	0	16	8	4	0	12	20
0	0	0	0	8	4	0	4	16	4	4
8	4	0	0	0	0	0	4	20	12	16
4	0	0	4	0	4	0	16	8	12	0
0	0	0	4	8	12	12	8	4	0	12
0	16	0	0	20	8	0	0	48	0	16
0	4	8	4	8	4	4	0	12	0	4
12	0	4	8							
TOTAL										103

APPENDIX III

TABLE VI

FREQUENCY DISTRIBUTION OF TIMES (WEIGHTED) EACH
BOY WAS PLACED IN PUNISHMENT COTTAGE

<u>Class Interval</u>	<u>No.</u>
48-55	1
40-47	0
32-39	1
24-31	0
16-23	11
8-15	29
0-7	61
TOTAL	103

APPENDIX III

TABLE VII

CONVERSION OF RAW SCORES (WEIGHTED) TO T
SCORES PUNISHMENT COTTAGE

Raw Score	f	Cum. f	Cum. Freq. Below and $\frac{1}{2}$ Given Score	Col. 4 in %	T Scores
48	1	103	102.5	99.5	76
32	1	102	101.5	98.5	72
20	4	101	99	96.1	68
16	7	97	93.5	90.8	63
12	11	90	84.5	82.0	59
8	18	79	70.0	68.0	55
4	24	61	49.0	47.6	49
0	37	37	18.5	18.0	41

APPENDIX III

TABLE VIII

NUMBER OF TIMES (WEIGHTED) EACH BOY WAS
PLACED ON WORK DETAIL

10	10	15	20	10	10	20	25	25	15
17.5	5	5	2.5	17.5	5	5	2.5	2.5	12.5
2.5	7.5	15	10	5	0	5	25	2.5	2.5
0	15	2.5	7.5	25	40	2.5	17.5	2.5	2.5
5	17.5	0	2.5	25	2.5	0	5	0	0
15	42.5	20	12.5	0	12.5	7.5	5	7.5	5
12.5	10	25	10	10	2.5	15	5	7.5	5
22.5	25	5	30	20	20	5	57.5	5	15
15	30	10	0	20	7.5	0	5	5	25
2.5	5	2.5	2.5	2.5	0	2.5	2.5	25	15
2.5	7.5	5							
TOTAL									103

APPENDIX III

TABLE IX

FREQUENCY DISTRIBUTION OF TIMES (WEIGHTED)
EACH BOY WAS PLACED ON WORK DETAIL

<u>Class Interval</u>	<u>No.</u>
50-59	1
40-49	2
30-39	2
20-29	16
10-19	26
0-9	56
TOTAL	103

APPENDIX III

TABLE X

CONVERSION OF RAW SCORES (WEIGHTED) TO T
SCORES WORK DETAIL

Raw Score	f	Cum. f	Cum. Freq. Below and $\frac{1}{2}$ Given Score	Col. 4 in %	T Scores
57.5	1	103	102.5	99.5	76
42.5	1	102	101.5	98.5	72
40	1	101	100.5	97.5	70
30	2	100	99.0	96.1	68
25	10	98	93.0	90.2	63
22.5	1	88	87.5	85.0	60
20	6	87	84.0	81.5	59
17.5	4	81	79.0	76.6	57
15	9	77	72.5	70.4	55
12.5	4	68	66.0	64.0	54
10	9	64	59.5	57.7	52
7.5	6	55	52.0	50.5	50
5	20	49	39.0	37.8	47
2.5	19	29	19.5	18.9	41
0	10	10	5.0	4.8	33

APPENDIX III

TABLE XI

NUMBER OF TIMES (WEIGHTED) EACH BOY
LOST MOVIE PRIVILEGES

8	6	4	6	0	4	0	0	0	0	2	4	4
0	0	0	4	4	2	0	12	0	0	10	2	0
0	18	0	24	0	8	2	2	2	6	2	2	0
2	0	12	0	2	4	0	2	0	0	0	28	16
2	16	2	4	4	0	10	0	6	4	8	4	4
0	2	2	4	2	8	8	0	8	6	6	0	4
2	2	4	6	2	0	0	2	0	0	0	6	0
2	4	0	0	0	0	2	10	2	0	4	8	
TOTAL												103

APPENDIX III

TABLE XII

FREQUENCY DISTRIBUTION OF TIMES (WEIGHTED)
EACH BOY LOST MOVIE PRIVILEGES

<u>Class Interval</u>	<u>No.</u>
28-31	1
24-27	1
20-23	0
16-19	3
12-15	2
8-11	10
4-7	25
0-3	61
TOTAL	103

APPENDIX III

TABIE XIII

CONVERSION OF RAW SCORES (WEIGHTED) TO T
SCORES LOSS OF MOVIE

Raw Score	f	Cum. f	Cum. Freq. Below and $\frac{1}{2}$ Given Score	Col. 4 in %	T Scores
28	1	103	102.5	99.5	76
24	1	102	101.5	98.5	72
18	1	101	100.5	97.5	70
16	2	100	99.0	96.1	68
12	2	98	97.0	94.1	66
10	3	96	94.5	91.7	64
8	7	93	89.5	86.9	61
6	8	86	82.0	79.6	58
4	17	78	69.5	67.4	54
2	23	61	49.5	48.0	49
0	38	38	19.0	18.6	41

APPENDIX III

TABLE XIV

NUMBER OF TIMES (WEIGHTED) EACH BOY WAS PUNISHED
DURING HIS STAY IN THE INSTITUTION

13	47	17	21	45	21	14	49	15	37
6.5	19.5	16.5	11.5	21.5	5	22.5	7.5	10.5	34.5
14.5	2.5	17	8.5	4	45.5	45	42	13	42.5
15	16	22	12	68	9.5	9	13	0	0
0	0	2.5	8.5	26	28	19.5	10	6.5	0
5	44	39	17	7	77.5	5	38	4.5	9
6.5	27.5	15.5	7	23	25	26	22	26.5	56
62.5	43	35	18.5	15	10.5	6.5	2.5	12	5
22	13	64	27	5	35.5	4.5	66	27	9.5
4.5	35	4	53	10.5	59	6	9	16	29
6.5	2	37							
TOTAL									103

APPENDIX III

TABLE XV

FREQUENCY DISTRIBUTION OF TOTAL NUMBER TIMES (WEIGHTED)
THAT EACH BOY WAS PUNISHED

Class Interval	No.
70-79	1
60-69	4
50-59	3
40-49	9
30-39	8
20-29	17
10-19	27
0-9	34
TOTAL	103

APPROVAL SHEET

The thesis submitted by Francis Bernard Petrauskas has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

May 29, 1953
Date

Frank J. Koller
Signature of Adviser