

AN ABSTRACT OF THE THESIS OF

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Title PEER REINFORCEMENT OF BEHAVIOR IN AN INSTITUTION
FOR DELINQUENT GIRLS

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The major purpose of this study was to compare the occurrence of "delinquent" and "non-delinquent" responses and their contingent social reinforcements during informal cottage peer interaction at a training school for adolescent delinquent girls. The following hypotheses were tested: (1) The occurrence of delinquent responses exceeds the occurrence of non-delinquent responses. (2) The positive reinforcement of delinquent responses exceeds the punishment of delinquent responses. (3) The punishment of non-delinquent responses exceeds the positive reinforcement of non-delinquent responses.

"Delinquent" and "non-delinquent" responses were defined according to the expressed support or rejection of the following staff behavioral expectations:

- (1) Modesty regarding sexual expression and general conduct.
- (2) Support of staff and other authority figures.
- (3) Support of institution and its properties.

- (4) Initiative shown toward school work, vocational training, and cottage programs.
- (5) Identification with socially acceptable, "law-abiding" way of life.
- (6) Consideration, concern, and respect for other people.

"Positive reinforcements" were defined as attentive or approving behaviors while "punishments" consisted of inattentive or disapproving behaviors offered by peers contingent upon delinquent or non-delinquent responses.

Observations of peer interaction were obtained for eleven "open" cottage and eleven "closed" cottage target subjects randomly drawn from each of two "open" cottages (relaxed supervision) and two "closed" cottages (strict supervision). Observations were collected by a participant observer after she had been acclimatized as a "visitor" in each of the four cottages and observer reliability had been established.

All observations were made during evening "leisure" time when the girls of each cottage were together in their cottage "dayroom." The observer alternated among the four cottages each night and observed each target subject's communication with peers for two twenty-five minute periods on different nights. The observer did no recording in front of the girls and withdrew from the group after each twenty-five minute observation period to record in descriptive form all the behaviors observed in each delinquent and non-delinquent episode

in which the subject had participated.

Following a rater reliability check, the descriptive records were coded according to the type of response observed (delinquent or non-delinquent) and the type(s) of reinforcement observed (positive reinforcement or punishment). The behaviors described in the records were also categorized according to the Interpersonal Communication Behavior Analysis Method devised by Buehler and Richmond to establish the levels of communication on which peer interaction took place. The distribution of behaviors according to levels of communication showed that many behaviors occurred on the "biochemical" and "motor movement" levels suggesting that much social learning takes place through non-verbal communication.

A hierarchical analysis of variance test was utilized to determine differences among cottages and between open and closed cottage condition in occurrence of delinquent and non-delinquent responses and positive reinforcement and punishment for the responses. No significant differences were found among the cottages or between open and closed cottage condition for these criteria. A t-test of differences was used to test the three major hypotheses, and the results showed the following: (1) Delinquent responses occurred significantly more often than non-delinquent responses. (2) Delinquent responses were positively reinforced significantly more often than they were punished. (3) Non-delinquent responses were punished

significantly more often than they were positively reinforced.

The confirmation of the three hypotheses is in agreement with the literature that suggests that anti-social behavior occurs frequently within institutions and is likely to be learned and maintained through inmate peer group association.

These findings specifically suggest that the anti-social learning that takes place within juvenile institutions occurs because of the high frequency of positive reinforcements offered by peers for delinquent responses. The low frequency of positive reinforcements and the high frequency of punishments given by peers for non-delinquent responses would tend to keep the learning of socially acceptable behaviors at a minimum level.

PEER REINFORCEMENT OF BEHAVIOR IN AN
INSTITUTION FOR DELINQUENT GIRLS

by

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PEER REINFORCEMENT OF BEHAVIOR IN AN INSTITUTION FOR DELINQUENT GIRLS

INTRODUCTION

Purpose of Study

The purpose of institutionalizing the juvenile delinquent is to "rehabilitate" him by modifying his anti-social value system (8, p. 78). However, the attaining of this objective may be impeded by the delinquent's close association with the inmate peer group. The observation has been made that the inmate group within correctional institutions is successful in securing the professed loyalty of individuals to staff opposed, anti-social group values (11, 22, 30, 42, 46). The question arises as to how the group specifically encourages the individual to conform to the accepted group standards of behavior. What daily methods are utilized by the group to perpetuate behaviors in the individual that run in opposition to staff approved behaviors?

Researchers interested in the process by which anti-social learning takes place have suggested studying peer interactions within the institution in terms of reinforcement learning principles (31, 32). Application of reinforcement principles in the laboratory and natural settings has shown the social agent to be a significant modifier of human behavior through the offering of "positive reinforcements" and "punishments" contingent upon a person's behavior (3, 26, 39).

The general purpose of the present study was to investigate the types of social reinforcements offered by peers for expressions of "delinquent" (anti-social) behavior and "non-delinquent" (socially acceptable) behavior during informal peer interaction at a state training school for adolescent delinquent girls. The specific aim was to systematically observe interpersonal communication among peers in an attempt to see the types of immediate peer reinforcements girls received after initiating either "delinquent" or "non-delinquent" behaviors and to determine the levels of communication used in peer interaction.

Cressy (10, p. 21) suggests that the behaviors which will receive positive reinforcements within a group are established by what the particular group holds as acceptable, desired behavior goals, while the behaviors that will be punished are determined by what the group considers undesirable, unacceptable behavior goals. Therefore, in a group such as the inmate peer group, where anti-social group values are believed to be widely held, it would be expected that in studying the social reinforcements given by peers, one would find an individual's anti-social behaviors positively reinforced and his socially acceptable, staff conforming behaviors punished.

If the types of social reinforcements offered within correctional institutions are predominantly rewarding of anti-social behavior, Patterson states the following regarding institutions for adolescents:

... settings which provide prolonged interaction among delinquent adolescents would be expected to provide an excellent opportunity for 'learning delinquent behaviors.' In such a setting, each child would be in the position to reinforce other children whenever they showed a delinquent response. A comparison of the unlimited number of reinforcements available from the peer group with the number of reinforcements available from the staff (for conforming behavior) would lead to little doubt as to what is being taught in such a setting (32, p. 2).

Hypotheses

The following three hypotheses were tested in this study:

1. The occurrence of delinquent responses exceeds the occurrence of non-delinquent responses in informal peer interaction.
2. The positive reinforcement of delinquent responses exceeds the punishment of delinquent responses.
3. The punishment of non-delinquent responses exceeds the positive reinforcement of non-delinquent responses.

Review of Literature

The first part of the literature review will center around the factors working against rehabilitation within the inmate social system of (1) the adult institution and (2) the juvenile institution. The second section of the review will be concerned with social learning literature as it pertains to this study.

The modern corrective institution fails to "rehabilitate" a large portion of its inmates. After surveying recidivism statistics pertaining to the institutionalization of those who have been incarcerated previously, Vold (50) concluded that recidivism is frequent enough with inmates from many different levels of correction (juvenile training school through the penitentiary) to seriously doubt whether confining offenders in institutions can be considered "rehabilitative." Regarding the degree of rehabilitative success of juvenile institutions, Shaw states the following:

Institutional names have changed over the years. Reform schools become industrial schools, then training schools, and at present we are hearing about residential treatment centers. But however the institutions are named, the percentage of former inmates who "graduate" from juvenile to adult correctional institutions is disconcertingly large (41, p. 145).

Cohen agrees that institutionalization of juveniles does not necessarily rehabilitate them:

What can be said definitively is that research studies have generally found that upwards of 50 percent of children who are alumni of state training schools become recidivists in the sense of having further court appearances either as children or as adults (8, p. 123).

In exploring the aspects of the modern corrective institution that may not be conducive to rehabilitation, many researchers have considered the influence of the "inmate social system" (prisoner community) upon the individual inmate (7, 15, 17, 19, 20, 30, 42, 46, 52).

Most of the information about this system stems from observations of prisons for adult males. In prisons the inmate social system has been found to be governed by an "inmate code" that is consistently anti-social in its traditions, mores, and expectations for attitude expression (6, 7, 20, 30, 46). It represents the dominant group values of the inmates and stresses a loyalty to the inmate group and a devaluation and rejection of the staff's values which represent the larger society's values. McCorkle and Korn (30) and Cloward (7) believe this anti-social code emerges in part from the inmate's need to regain the status he has lost in the larger society; he devises his own standards for granting prestige by devaluating the goals of the law-abiding society. Others would say that since all inmates have obviously adhered to some degree to anti-social values before imprisonment, it is only logical that these values should emerge strongly within the incarcerated group (21).

The individual inmate's support of the inmate code is necessary if he is to achieve prestige within the group. Sykes and Messinger (46, p. 10) and Schrag (42) in their descriptions of inmate "types" say that highest prestige and respect is given to the person who is the most loyal to the inmate code and the most effective in defying and outsmarting the staff ("right guy," "real man"), while prestige and acceptance are withheld from the inmate who tries to conform to the staff's expectations ("square John"). Cloward (7, p. 21), in a

report on his observations of a permanent Army prison, says prestigious leaders have devaluated staff values to the greatest extent and also have the most "anti-social" pre-imprisonment records. Schrag (42) obtained sociometric test results tapping "leadership" from 143 medium custody inmates. He found leaders were more likely to be recidivists who had served long terms and had long terms remaining, and had more frequently been charged with crimes of violence. They had also engaged in a greater number of serious rule infractions while in prison.

The individual's alliance to the inmate code's values has been shown to be related to his number of primary contacts within the institution. Clemmer (6) maintains that the inmate who has strong primary contacts within the prison is also the man who has accepted the inmate norms, traditions, and attitudes most completely; in Clemmer's terms, he has become the most highly "prisonized." A study by Wheeler (52) supports Clemmer's point. Wheeler administered a series of "hypothetical conflict situations" in a questionnaire designed to measure conformity to staff role expectations to a stratified random sample of young men in a close custody institution. He divided the group into "high" and "low" group contacts depending on their stated number of close friends within the institution and the amount of time spent with these friends during free time. His results showed that "highly involved" inmates were low conformers to

staff expectations. He concluded

The inmate who values friendship among his peers and also desires to conform to the staff's norms faces a vivid and real role conflict. The conflict is not apparent or perhaps is not felt so intensely during the earliest stages of confinement, but with increasing length of time in the prison the strain becomes more acute; inmates move to resolve the strain either by giving up or by a shift in attitude. In either case the result leads to a polarization of non-involved conformists and involved non-conformists. One group of inmates becomes progressively prisonized, the other progressively isolated (52, p. 704).

Observers of the prison feel that the existence of this anti-social inmate group that provides an immediate close reference group with which the inmate can identify and derive prestige is a very major factor working against the inmate's likelihood of "reforming" his values.

However, there are indications in the literature suggesting that we must not automatically put all the blame of the prison's failure to "rehabilitate" on the influence of the inmate group. Research findings questioning the inmate group's powerful and lasting effects on the inmate are the following:

1. The inmate's identification with the inmate group code is not necessarily a progressively deepening phenomenon, and his greatest group involvement and commitment may be in the middle of his sentence (17, p. 388-390; 52).
2. The inmate's length of time in prison may not be correlated with future officially documented crimes, except for certain

types of offenders (15, p. 364-370).

3. The "role" the inmate may play as a conformist to the anti-social inmate code may not be personally significant, although this is less likely to be true if an individual has many primary contacts (17, p. 374).

More empirical research needs to be conducted before any definite statements can be made about the lasting effects of being part of the inmate social system or the relationship between the role played in prison and the role taken after release (15, 17).

Juvenile offenders were first separated from adults in prison to protect the juvenile from the influence of the older more experienced criminals (47, p. 430-431). Juveniles are popularly considered more "reformable" than adults. Wheeler (52) suggests that theoretically the potential for rehabilitation within the reformatory setting should be greater than in the prison because of the very youth of the inmates and also because of the high rate of population turn over which would tend to prevent a social structure from developing that was as "stable" and "solid" as in the adult institution. However, he recognizes the problem of peer group influence to be greater in juvenile institutions than in adult prisons (52, p. 710).

Grosser (19), in discussing juvenile training schools in general, outlines several reasons why "reformation" might be extremely difficult and improbable. He thinks the very nature of their "adolescent"

status implies a major problem in constructively modifying the values of juvenile delinquents within an institution. He says the influential informal group within the adolescent institution arises from the following:

1. Adolescent needs for peer-group relationships, generated by the conflicts that adolescent status in our society produces.
2. The normal tendency for people spending extensive amounts of time together to cluster into informal groups on the basis of affective ties.
3. The need of persons in the same boat for support from one another. In this sense, the inmate social system has many of the aspects of a minority group under stress.
4. The adolescent need for friends of one's own sex in a culture in which heterosexual relations in childhood and adolescence are generally frowned upon (19, p. 25).

Grosser adds that in the juvenile institution, where new inmates are usually extremely anxious to be accepted by their peers, the following mechanisms of group control are effective in helping perpetuate a delinquent value system in the individual:

1. Recruitment and screening of membership and transmission of the institutional lore to the newcomer.
2. The development of social norms and rituals--characteristic institutional slang, ritual forms of interaction, and sharing of secrets with respect to illicit activities, and the establishment of a definite hierarchy of leaders and followers.
3. The application of sanctions to violators of the group code, ranging from gossip and ostracism to outright violence.
4. The development of loyalty and group ties.

5. The constant reinforcement of the separateness of the group through an attempt to create an orthodoxy of beliefs. This is done by informal communication, the spreading of news through the grapevine, and biased interpretation of the administration's policy, especially where it concerns the fate of particular group members (19, p. 26).

He believes that it is not surprising that many ex-training school inmates become involved in future crime since they were able to maintain delinquent values in the peer group of the institution and would be likely to seek out friends with similar values to their own upon release.

Shulman, in his evaluation of training schools, supports Grosser by saying that staff rehabilitation efforts are often ineffective

because the peer group structure among the students tends to stamp in the very role formations which had their origins in similar peer group life in the open society (43, p. 626).

Fisher (14) also discusses elements within an institutionalized juvenile group that he believes are not conducive to rehabilitation. He gathered sociometric data over a four month period and informally observed for a year in a cottage of a small California institution for delinquent boys, ages eight to fourteen. Although he did not find the strong anti-social code typical of adult institutions regulating the boys' behavior, he did see consistent patterns of behavior related to the awarding of peer prestige that he felt were incompatible with rehabilitation. He identified the two practices of "victimization" and "patronage." Victimization was the practice whereby the "inmates of

superior strength and knowledge of inmate lore" dominated the weaker and more naive boys through 1) Physical attack, 2) Agitation (verbal abuse, derogatory comments), and 3) Exploitation (threats).

The most aggressive and fear-provoking boys achieved highest prestige in the group, and the weaker low prestige boys were seen trying to win favor, i. e. , secure "patronage," of leaders by giving them commodities, praising them, and "laughing at their jokes." Having the patronage of a high prestige boy raised the status of the weaker boy considerably and assured him some protection against physical attack.

The environment that Fisher describes encouraged a boy to be as "tough" as possible and to support the values of the aggressive, delinquent leaders, not only to secure acceptance and peer prestige, but also to be assured of physical safety.

This section of the literature review has been concerned with observations of the inmate social system of adult and juvenile institutions. In general it has appeared that the inmate group can be influential in perpetuating anti-social behavior in the individual while he is institutionalized.

The following section deals with the social learning process through which the individual is influenced by other people.

The process through which an individual's behavior is influenced by the social reinforcements offered by others has been outlined by

Skinner (44, p. 59-83). In this process, Skinner identifies any "voluntary" act of human behavior as a "response" even though a preceding stimulus may not be readily identifiable in the environment. The frequency of recurrence of a particular type of response is influenced by the behavior of other persons that occurs contingent upon the response. Another person's behavior occurring contingent upon a response can be considered a "positive reinforcement" (reward) if it strengthens the likelihood of that or a similar response being emitted in the future, or a "punishment" if it decreases the probability of the response's future occurrence.

A wide range of human behaviors constitute social reinforcements. The meaning and effectiveness of a particular reinforcement differ between cultures and for individuals within the same culture. However, Skinner (44) and others (3, 48) indicate that behaviors which are interpreted by the recipient as "attention" or "approval" are usually strong positive reinforcements since the responses they occur contingent upon are likely to be increased. Likewise, behaviors which the recipient regards as indications of "disinterest" or "disapproval" are effective punishments because the responses they follow tend to be at least temporarily reduced.

Bandura and Walters (3), in their recent survey of social learning research, cite experimental evidence of the effectiveness of the "social reinforcer" as a modifier of human behavior. In laboratory settings,

social reinforcements have been found to influence wide ranges of verbal and motor behavior (9, 16, 18, 23, 26, 28, 29, 33, 34, 35, 36, 40, 45, 49). However, Bandura and Walters emphasize the need for social learning studies in non-laboratory situations.

As long as conditions that obtain in real-life situations cannot, for ethical or practical reasons, be reproduced in laboratory settings, experimental studies alone cannot provide the data for an adequate science of social learning. Theory-based naturalistic and longitudinal studies are thus indispensable adjuncts to laboratory methods (3, p. 42).

The non-laboratory studies that have been conducted have demonstrated the effectiveness of social reinforcements in modifying behaviors (1, 32, 48).

Verplanck (48) showed that elements of a naturally occurring conversation could be modified by the introduction and withdrawal of social reinforcements when the subjects were unaware they were in an experimental situation. He classified "statements of opinion" as the experimental response class (any phrase beginning by "I think," "I believe," "It seems to me," or similar statements). "Statements of agreement" (with the opinion) and "paraphrasing" were considered positive reinforcements while "statements of disagreement" and "silence" were considered negative reinforcements. Seventeen college students were experimenters and engaged in conversations with twenty-four adult subjects in a variety of informal situations. All conversations were at least one-half hour in length, and the

conversation topic differed with each experimenter-subject pair. The thirty minute conversation period was divided into three sections. In the first ten minutes, the subject's base statement level was established by the experimenter noting the number of statements and opinion statements made in successive one minute intervals. (All notes were taken throughout the conversation in "doodling" fashion without the subject being aware.) In the second ten minute period, the experimenter "positively reinforced" the opinion statements by agreement or paraphrase, and in the third ten minute period opinion statements were "negatively reinforced" by disagreement or silence. Although the results showed individual differences in rates of speech among the conversations, every subject increased his rate of stating opinions after paraphrasing or agreement, and twenty-one of the twenty-four subjects decreased their rate of opinion stating with disagreement or silence.

In another attempt to test reinforcement principles outside of the laboratory, Ayllon and Michael (1) found that social reinforcement techniques can be effective in modifying behavior problems in a mental hospital. Selected patients were systematically observed to determine base levels for the particular type of problem behavior exemplified. All staff ward workers who came in contact with the experimental patients were instructed to treat the problem behavior according to reinforcement principles. Although nineteen subjects

were involved in the study, each manifesting slightly different behavior problems and receiving different reinforcement schedules from the staff, the following two cases are typical of the results. A woman who had persisted in psychotic verbalizations was positively reinforced by attention and approval whenever she used "sensible" speech and ignored for any psychotic talk, and she showed a significant decrease in psychotic verbalizations in a nine week period. Another woman who had previously received considerable attention for entering the nurses' office (attention shown in the form of nurses talking to her and personally guiding her out) was totally ignored for this during the experimental period, and within eight weeks her problem behavior of "entering the office" was almost completely eliminated.

Of especial interest to the present study is the role the peer group plays in modifying behavior through the use of social reinforcements. Patterson (32) conducted a non-laboratory pilot study to explore the responses emitted by boys and girls in a juvenile detention home which received positive reinforcements or punishments from peers. His results tentatively indicated that "anti-social" behaviors were likely to occur often and receive positive reinforcements from peers while "middle class" behaviors occurred seldom and were less likely to receive positive reinforcements and were often punished.

Peers have been shown to effectively reinforce behavior at the nursery school level. Horowitz (23) found the flashing of the picture

of a "significant" peer (best friend) onto a screen to be more reinforcing for a simple motor response than the flashing of a neutral peer's picture, with a neutral stimulus (blue light) being the least effective reinforcer (for children at age three). Patterson (36) showed the nursery school child's peer to significantly positively reinforce "aggressive" responses as they occurred in school "play."

The effectiveness of peers as reinforcers has been shown to increase as children age. Patterson and Anderson (34, 35) found verbal expressions of "approval" (good, yes, great, ok, fine, very good) offered by a peer of the same age to be significantly effective in influencing children's preference behavior for a simple motor response from the seven to ten year age level. Their results indicated that the effectiveness of peer reinforcements increased with age, with the oldest peer (age ten) being the most influential modifier of another ten year old child's behavior.

If peer influence reaches a peak of effectiveness during adolescence as has been suggested in the literature (12, p. 293; 31), the adolescent would be extremely susceptible to the social reinforcements offered by members of his peer group and less influenced by adult offered reinforcements. In explaining why she thinks children at the pre-adolescent and early adolescent age are less influenced by an adult teacher than by peers, Berenda says

In the world of the child, she indeed plays an important

part, but the rules of the game that apply to the child's group do not apply to her nor to any other adult. The child's membership in the group is not threatened by the disagreement of the teacher (4, p. 77).

Peer group values should not necessarily be thought of as at variance with the values expressed by surrounding adults. Westley and Elkin (13, 51) studied family and peer relations in an upper-middle class suburb of Montreal and found the value expression for adults and adolescents to be highly similar. However, in some adolescent peer groups, such as the groups that emerge in institutions for juvenile delinquents, peer values can be expected to conflict with the values exemplified by the immediate adults (staff personnel). McDavid and McCandless (31) emphasize that the probable differential effect of adult and peer social reinforcements on juvenile offenders has not been given sufficient research attention, but it could be expected that the reinforcements given by peers would be more influential in modifying the delinquent child's behavior than adult offered reinforcements.

PROCEDURE

Setting

The setting for the study was the Hillcrest School of Oregon, a state training school for adolescent delinquent girls. To be committed by the juvenile court judge to a state training school in Oregon, a child must be between twelve and eighteen years old and must be one of the following:

1. "a child who has committed an act which is a violation, or which if done by an adult would constitute a violation, of a law or ordinance of the United States or a state, county, or city"
2. "a child who is beyond the control of his parents or other person having his custody"
3. "a child whose behavior or condition is such as to endanger his own welfare or the welfare of others"
4. "a child who is found to be a persistent runaway" (ORS 419. 509)

There are eight living units (cottages) on the Hillcrest campus. Each new girl spends her first month in the "intake" cottage (capacity: eighteen girls). Her "behavior" and "attitude" during the intake period determine the living unit to which she will move after the first month. The girl believed to need the greatest amount of supervision is sent to the maximum security cottage (capacity: 20 girls). The girl who appears to the staff to need considerable supervision, but not to the extent of maximum security, is sent to one of three

"closed" cottages (capacity: eighteen girls in each), while the girl who is believed to need the least supervision is sent to one of three "open" cottages (capacity: twenty-two to twenty-four girls in each). Because the open cottage girl has "earned" this living group status by her "attitude" and "behavior," she is awarded greater privileges than the closed cottage girl. She stays up later at night, can have more time away from the campus, has less restricted ground privileges, and is generally less supervised in all her activities. During a girl's stay at Hillcrest, her living quarters may shift between open and closed cottage depending on her behavior changes.

Within the setting of the Hillcrest School, the following hypotheses were tested through participant observation of interpersonal communication among peers:

1. The occurrence of delinquent responses exceeds the occurrence of non-delinquent responses.
2. The positive reinforcement of delinquent responses exceeds the punishment of delinquent responses.
3. The punishment of non-delinquent responses exceeds the positive reinforcement of non-delinquent responses.

Definitions

- (1) Definition of "delinquent" and "non-delinquent" responses.

Delinquent (anti-social) responses and non-delinquent (socially acceptable) responses were defined according to the following

rationale for the purposes of this study:

The School's administration was considered to support the larger society's values in its standards and goals for behavior. Therefore, a girl's indication of support of a value professed by the administration was considered a non-delinquent expression. Likewise, a girl's demonstration of opposition to an administration supported value was considered a delinquent expression. The Girls' Handbook and training instructions for staff members indicated the expectations and goals for behavior the administration supported. The following general expectations were strongly implicated or directly stated in these materials:

1. Modesty with respect to sexual behavior and general conduct.
2. Support of staff and society authority figures.
3. Respect for the institution and its properties.
4. Identification with a non-delinquent "law-abiding" way of life.
5. Initiative shown toward school work, vocational training, and cottage programs.
6. Consideration, concern and respect for other people.

A girl's support of one of these expectations, demonstrated on any level of behavior, was considered a non-delinquent response in this study.

A delinquent response consisted of a girl's lack of support of any of the administration's expectations:

1. Sexual immodesty, vulgarity, profanity.
2. Lack of support of staff and outside authority figures.
3. Lack of respect for institution and its properties.
4. Identification with delinquent "non-law-abiding" way of life.
5. Lack of initiative shown toward school work, vocation training and cottage programs.
6. Lack of consideration, concern and respect for other people.

(2.) Definition of "positive reinforcement" and "punishment. "

A positive reinforcement was considered to be any behavior occurring contingent upon a delinquent or non-delinquent response that indicated "attention" or "approval. " A punishment was considered to be any behavior following a response that indicated "disinterest" or "disapproval. "

(3.) Definition of "act. "

An act consisted of a single delinquent or non-delinquent response and its contingent positive reinforcements or punishments.

(4.) Definition of "episode. "

An episode consisted of a sequence of contingent behavioral events encompassing one or more acts.

Subjects

Six target subjects were randomly selected in each of two open and two closed cottages. Data collection could not be completed for

five of the originally selected twenty-four subjects because of the subjects' unexpected removal from the cottages due to either staff decision or escape. In three cases completed data were obtained for randomly selected alternate subjects. Data collection was completed for eleven open cottage and eleven closed cottage subjects.

TABLE I. DISTRIBUTION OF SUBJECTS BY COTTAGES

		Population at beginning of study	Number subjects data completed
CLOSED	Cottage I	18	6
	Cottage II	18	5
OPEN	Cottage III	22	5
	Cottage IV	23	6

Descriptive data on the subjects concerning age, race, length of residence at Hillcrest, and reason for admission are included in Appendix A.

Observer Acclimatization

In an attempt to minimize the influence of the observer on the cottage environment, the observer spent an "acclimatization" period in the four cottages prior to data collection. She first met with all cottage housemothers and familiarized them with her study purposes before she was introduced to the girls. This enabled the housemothers to ask questions about the observation procedure out of the girls' presence. See Appendix B for introductory information regarding the

study given to housemothers by the Superintendent of Hillcrest.

The housemothers of the four cottages introduced the observer to the girls as a "college girl interested in becoming acquainted with you and learning about cottage life." The introductions were made in a casual manner with the added comment that the observer would be visiting the cottage "every now and then for a month or so." After the initial introductions, the housemothers were extremely cooperative about generally ignoring the observer's presence for the remainder of the study as they had been requested to do.

The observer's initial acceptance in the cottages was facilitated by having spent several days making preliminary observations in the intake cottage two months earlier. In each of the four cottages there were girls who had been in the intake cottage during the observer's previous visits, and their recognition and acknowledgment hastened her acceptance by the rest of the group.

During the acclimatization period, which covered slightly over a week's span, the observer spent several hours each day alternating among the four cottages. She ate meals with the girls, accompanied them to the gymnasium, and participated in their cottage activities such as card playing, hair setting, knitting, and T. V. watching. During this period, she learned their names and increased her familiarity with their meanings for slang terms and gestures.

It was believed necessary to participate moderately with each

cottage group to decrease the girls' suspicions and secure their acceptance of her presence, but the observer always tried to keep the intensity of her interaction at a minimum level in an effort to have her personality influence the environment as little as possible.

Individual girls' initial reactions to her varied considerably, but two particular reactions seemed to occur often in all four cottages. First there was an immediate, intensive questioning to see if she were connected with the staff, either currently employed at Hillcrest or planning to be in the future. The observer was apparently successful in convincing the girls that she was not related to the staff authority figures, since no more questions in this area arose after the first few visits. The fact that she was generally ignored by the house-mothers, carried no keys (she had to be let in and out of each cottage by attendants), and was close to the girls in age and appearance seemed to help differentiate her from the staff in the girls' minds.

The second common reaction to the observer occurred after it appeared to be accepted that she was not affiliated with the staff. Many of the girls tested the possibility that she would assist them in "underground" activities such as get them cigarettes or sneak out letters to boyfriends. The observer's refusal to participate in these activities seemed to be good-naturedly accepted by the girls. ("Well, it was a good try.")

By the end of the acclimatization period, the observer was

satisfied that her presence was no longer a complete surprise or novelty to anyone, and much of the initial curiosity appeared to have been satiated. There was general acceptance of her role as "visitor." Although some girls remained more suspicious of her than others, it was felt that in no case was the distrust so great that a girl would stop her conversation or move to a different location if the observer came within listening distance. Likewise, after the initial visits, the observer was not sought out for attention or conversation, and the normal peer interaction was not obviously disrupted by her presence. This was generally substantiated by housemothers.

Method of Observation

After the observer believed she was acclimatized sufficiently, formal observations of the target subjects' peer interpersonal communications were begun. Observations were restricted to cottage "leisure" time which usually included the period after dinner and before bed time each day plus the later afternoon period on the weekends. The girls spent "leisure" time together in the "dayroom" of their cottage.

Although the design of each "dayroom" varied slightly among the four cottages, the size and furnishings were similar. Each dayroom was rectangular and small enough that all corners were plainly visible from a glassed-in housemothers' office located in one wall.

Each room contained a T. V. , a record player, a few tables for sewing and games, a sofa, and several chairs.

During "leisure" time the girls were in the dayroom setting their hair, playing cards, listening to records, watching T. V. , and engaging in informal conversations.

A rotating observation schedule was established so the observer alternated cottages every night in an attempt to view a more representative picture of peer interaction over a longer time span.

Each of the twenty-two subjects' interpersonal communications with peers was observed for a total of fifty minutes, composed of two twenty-five minute periods on two different nights. The order of observing target subjects each night was previously randomly arranged, and if on a particular evening the designated subject was not on the dayroom floor, one of the other subjects was watched according to a prearranged schedule. Usually two subjects were observed each night although occasionally one or three were watched depending on the length of available "leisure" time during an evening.

Because of the improbability of securing natural peer communications of the type under investigation in the presence of an observer holding a paper and pencil, it was necessary for the observer to rely on "recall" and record her observations out of the girls' view. The following procedure was used: The observer moved to a position close to the subject and concentrated on all her peer interactions as

inconspicuously as possible for the twenty-five minute period. This was done fairly easily without the subject's knowledge since the observer found she could "appear" to be glancing at a magazine, watching T. V. , knitting, or working on a puzzle while her full attention was on the subject's interactions. An active subject required the observer to shift positions to keep her in view, but the small size of the day-rooms allowed the observer to see and hear any interaction without conspicuous movement.

At the end of the twenty-five minute period, the observer withdrew unobtrusively (usually to the staff bathroom and supply area) to record any "delinquent" or "non-delinquent" episodes in which the subject had participated. Her original descriptive notes were only extensive enough to insure that no key points were forgotten. When the observations for the evening were completed, the observer left the cottage and immediately wrote over the descriptive observational accounts more thoroughly.

The account for each delinquent or non-delinquent episode observed included the following information:

1. A short description of the setting: Ann and Nancy sitting in front of the T. V. Margaret at sewing machine.
2. The initial action or thought expressed: Margaret runs over to Ann and Nancy, holding her half-sewn blouse up in front of her. Margaret: "I've never made anything before."

(smiles brightly)

3. The reactions following the initial action: Ann and Nancy continue looking at T. V. , not acknowledging Margaret's presence. Margaret walks back to sewing machine, face solemn.

It is important to emphasize that in the above example the subject under observation could have been any of the three girls involved.

The types of behavior that were recorded as delinquent or non-delinquent were determined by the previously described criteria. However, at the time of recording, observations were written totally on the "behavioral level," i. e. , the observer tried to describe the behaviors as objectively and completely as possible without interpretation of their meaning. As she recorded, the observer made no judgments differentiating "responses" from "reinforcements," and she made no interpretations concerning whether "rewarding" or "punishing" behaviors occurred.

Coding of Behavioral Records

The behaviors in the descriptive records were categorized as delinquent and non-delinquent responses, and positive reinforcements and punishments.

Responses were categorized delinquent or non-delinquent according to the previously described criteria derived from the staff

expectations for behavior. Subcategories of the delinquent and non-delinquent categories are described with examples from the data in Appendix C.

Behaviors were categorized as positive reinforcements if there was an indication of attention or approval given with respect to the preceding delinquent or non-delinquent response. Behaviors were categorized as punishments if there was an indication of disinterest or disapproval with respect to the preceding delinquent or non-delinquent response. The criteria used for classifying reinforcements are included in Appendix D.

To determine what communicating behaviors were used in peer interaction, all delinquent and non-delinquent responses and their contingent social reinforcements were categorized according to the four primary levels of communication and the eight subcategories devised by Buehler and Richmond (5) in the Interpersonal Communication Behavior Analysis Method shown in Table II. For an individual response or reinforcement, more than one subcategory of communication could be scored, e. g. , if a girl laughed, spoke, and nodded her head, subcategories two, four, and seven were scored. In a single response or reinforcement, two different behaviors on the same subcategory of communication were only scored once, e. g. , if the girl nodded and smiled, subcategory four was scored once. When the descriptive record indicated a response was totally ignored,

TABLE II. LEVELS OF COMMUNICATION ACCORDING TO THE INTERPERSONAL COMMUNICATION BEHAVIOR ANALYSIS METHOD

Major Category	Subcategories	Definitions
I Biochemical	1. Body Contact	Any body contact, with any part of the body.
	2. Affect	Reactions which do not require body contact, such as: laughing; crying; blushing; sighing; rapid breathing; tears in the eyes; tics; etc.
II Motor Movement	3. Posture	Any stance or posture shift during the interpersonal situation, involving the whole body or major parts.
	4. Facial Movement	Any muscular movement involving face or head, such as: smile; frown; winking; nodding; shaking head; pursing lips; etc.
	5. Gesture	Any use of body extremities such as: waving arm; pointing with arm, hand or fingers; shrugging shoulders; movements of feet or legs; using body movements to demonstrate or illustrate.
III Speech	6. Sound	Oral utterance without verbal form.
	7. Verbal	Oral utterance in verbal form.
IV Technology	8. Technology	Use of any instrument defined presently in the immediate culture as a communication tool.

this was indicated in a special column that was added for this study's purposes to the Interpersonal Communication Behavior Analysis Method.

The form and method for coding behavioral records with examples from the data are included in Appendix E.

Observer Reliability

Observer reliability was established in a setting similar to a Hillcrest cottage: a cottage for high school age girls at the Children's Farm Home in Corvallis, Oregon. The Farm Home is a co-educational institution for children who have exhibited problems in adjusting in their own homes. The cottage for older girls resembled a Hillcrest cottage because of similarities in population size and adult house-mother supervision.

A female graduate student in the Department of Family Life worked with the writer in establishing reliability. She read the Hillcrest publications outlining the School's behavioral goals, and she learned the categories of "delinquent" and "non-delinquent" behavior adapted for this study's purposes. Numerous practice sessions were held observing college students, to insure that the second observer was familiar with all the information that needed to be included in the descriptive form written for each episode observed.

Official observations were made in the "dayroom" of the Farm

Home cottage after Observers A and B had been introduced to the girls. Observers A and B each focused on two pre-chosen girls' peer interaction for a twenty-five minute period for each girl. After each twenty-five minute period, the observers withdrew and independently recorded in descriptive form the "delinquent" and "non-delinquent" episodes in which the subject had been involved. Since the names of all the girls could not be remembered, identification of particular girls was made by their wearing apparel.

The content of the two observers' descriptive records was coded according to the same form used for coding the formal data (Appendix E). Four measures of percent agreement were established, using the following formula:

$$\text{Percent of agreement} = \frac{\text{agreements}}{\text{agreements} + \text{disagreements}}$$

Observer reliability data are included in Appendix F.

Rater Reliability

Rater reliability was established prior to coding of the data between the writer and a graduate student in the Department of Family Life. A random sample of the data was separately coded by the two raters using the form for coding of descriptive records described in Appendix E.

Percentage agreement was computed according to the following formula:

$$\text{Percent of agreement} = \frac{\text{agreements}}{\text{agreements} + \text{disagreements}}$$

Percentage reliability scores were established for the classification of responses as delinquent or non-delinquent, the classification of reinforcements as positive reinforcements or punishments, and the classification of behaviors according to the levels of interpersonal communication.

Rater reliability data are shown in Appendix G.

THE FINDINGS

The purpose of this study was to compare the occurrence of delinquent and non-delinquent responses and their contingent social reinforcements during informal peer interaction at a training school for adolescent delinquent girls.

Three specific hypotheses were tested:

- I. The occurrence of delinquent responses exceeds the occurrence of non-delinquent responses.
- II. The positive reinforcement of delinquent responses exceeds the punishment of delinquent responses.
- III. The punishment of non-delinquent responses exceeds the positive reinforcement of non-delinquent responses.

The Analyses

Before tests of Hypotheses I, II, and III could be made, it was necessary to determine the amount of variation attributable to cottage condition. To determine the significance of difference between open and closed cottage condition for each of the criteria studied, a hierarchical analysis of variance was used.

To establish whether a difference occurred between open and closed cottage condition in delinquent and non-delinquent responses observed, the analysis shown in Table III was used.

TABLE III. THE COMPARISON OF FREQUENCIES OF RESPONSES BETWEEN COTTAGE CONDITION BY SUBJECTS WITH- IN COTTAGES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Condition	1.4545	1	1.4545	0.2700*
Cottages in Condition	2.1410	2	1.0705	with 1 and
Subjects in Cottages	96.9500	18	5.3861	18 d. f.
Periods in Subjects	119.0000	22		

* Not significant at .05 level of confidence.

The analysis in Table III indicates that the occurrence of total delinquent and non-delinquent responses observed did not differ with respect to cottage condition.

The same analysis was used to determine whether the occurrence of positive reinforcements and punishments for delinquent and non-delinquent responses differed with respect to cottage condition. These data are shown in Tables IV and V.

TABLE IV. THE COMPARISON OF FREQUENCIES OF REINFORCEMENTS OF DELINQUENT RESPONSES BETWEEN COTTAGE CONDITION BY SUBJECTS IN COTTAGES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Condition	2.2273	1	2.2273	0.2108*
Cottages in Condition	3.5030	2	1.7515	with 1 and
Subjects in Cottages	190.1334	18	10.5629	18 d. f.

* Not significant at .05 level of confidence.

Table IV indicates that the occurrence of positive reinforcements and punishments for delinquent responses was not significantly influenced by cottage condition. The factor "periods in subjects" seen in Table III was not used in Table IV because delinquent responses did not occur in every time period of observation.

TABLE V. THE COMPARISON OF FREQUENCIES OF REINFORCEMENTS OF NON-DELINQUENT RESPONSES BETWEEN COTTAGE CONDITION BY SUBJECTS IN COTTAGES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Condition	0.2857	1	0.2857	0.2137*
Cottages in Condition	1.2048	2	0.6024	with 1 and
Subjects in Cottages	13.3667	10	1.3367	10 d. f.

* Not significant at .05 level of confidence.

The non-significant F ratio in Table V indicates that the occurrence of positive reinforcements and punishments for non-delinquent responses is not affected by open or closed cottage condition.

The reduced number of degrees of freedom resulted from the lack of non-delinquent responses occurring in eight of the twenty-two subject observation periods. It should be noted that in Table V, one and ten degrees of freedom were used in comparison to one and eighteen degrees of freedom used in Tables III and IV. The fourteen subject observation periods were distributed so four and three periods occurred in closed cottage and five and two periods occurred in open

cottage.

The previous analyses shown in Tables III, IV, and V indicated that no differences occurred between open and closed cottages in the number of delinquent and non-delinquent responses and their contingent reinforcements during the leisure time peer interaction observed. On the basis of the criteria used in this study, there was no relation seen between open and closed cottage status and the degree of the girls' conformance with staff behavioral expectations. Since no significant differences were observed between cottages or open and closed cottage condition, no correction was made for the effects due to these factors in the analyses of Hypotheses I, II, and III.

To test Hypotheses I, II, and III, a t-test of differences was utilized. To test Hypothesis I, that delinquent responses occur more frequently than non-delinquent responses, the analysis shown in Table VI was used.

TABLE VI. THE DIFFERENCE OF DELINQUENT AND NON-DELINQUENT RESPONSES OBSERVED IN SUBJECT PERIODS

Subject Period	Types of Response		y D-ND
	Delinquent (D)	Non-delinquent (ND)	
C 1	7	1	6
C 2	10	0	10
C 3	13	3	10
C 4	10	3	7
C 5	3	1	2
C 6	5	0	5
C 7	7	2	5
C 8	7	5	2
C 9	7	0	7
C 10	11	5	6
C 11	5	0	5
O 1	6	5	1
O 2	14	0	14
O 3	3	2	1
O 4	6	0	6
O 5	9	0	9
O 6	7	2	5
O 7	2	3	-1
O 8	5	1	4
O 9	8	1	7
O 10	10	0	10
O 11	7	1	6
Total			127

n = 22

mean difference (\bar{y}) = $\frac{127}{22} = 5.77$

$$t = \frac{\bar{y} - 0}{\sqrt{\frac{S^2}{n}}} = \frac{5.77}{.753} = 7.667^{**} \text{ with 21 d. f.}$$

** Significant at P less than .001.

The analysis in Table VI indicates that observed delinquent responses occurred significantly more often ($P < .001$) than non-delinquent responses, confirming Hypothesis I.

This finding is in agreement with the generally held opinion that anti-social behavior occurs with high frequency in adult and juvenile correctional institutions (15, p. 359).

Some of the specific behaviors observed in the present study that have been mentioned in the literature as highly prevalent within institutional settings are anti-authority expressions (52, p. 626), identification with delinquency (21, 52, p. 492) and lack of concern and abuse of other inmates (14). The prevalence of sexually oriented behavior in girls' institutions has been cited by Teeters and Reineman (47, p. 464) and in the following statement by Shulman:

Whereas in boys' institutions sex relationships are a single factor in the complex of adjustive relations, in girls' institutions they are the central theme and focus of relationships (52, p. 589).

That delinquent responses were observed to occur significantly more often than non-delinquent responses in the present study is in direct support of Patterson's findings in a juvenile detention home (32).

A distribution of the observed responses according to the delinquent and non-delinquent subcategories adapted from the staff expectations is shown in Table I of Appendix H.

Responses were classified as positively reinforced, punished or of mixed reinforcement, i. e. , receiving both positive reinforcements and punishments. Nearly twelve percent of the total responses received mixed reinforcements; approximately twelve percent of the delinquent responses and about nine percent of the non-delinquent responses were given mixed reinforcements by peers. Because of the small number of mixed reinforcement data, no valid tests could be made with respect to the major hypotheses or in comparison with non-mixed reinforcement data.

The distribution of the responses in the delinquent and non-delinquent subcategories by the type of reinforcement received (positive reinforcement, punishment, or mixed reinforcement) is shown in Table 2 of Appendix H.

To test Hypothesis II, that positive reinforcement of delinquent responses occurs more often than punishment of delinquent responses, the analysis in Table VII was used.

TABLE VII. THE DIFFERENCE OF TYPE OF REINFORCEMENT CONTINGENT UPON DELINQUENT RESPONSES OBSERVED IN SUBJECT PERIODS.

Subject Period	Types of Reinforcement for Delinquent Responses		y (D+)-(D-)
	Positive Reinforcement (D+)	Punishment (D-)	
C 1	5	1	4
C 2	8	1	7
C 3	10	2	8
C 4	7	2	5
C 5	3	0	3
C 6	5	0	5
C 7	7	0	7
C 8	5	2	3
C 9	6	1	5
C 10	10	0	10
C 11	1	0	1
O 1	3	1	2
O 2	13	0	13
O 3	2	0	2
O 4	4	1	3
O 5	8	0	8
O 6	6	1	5
O 7	1	1	0
O 8	3	2	1
O 9	7	0	7
O 10	8	1	7
O 11	5	0	5
		Total	111

n = 22

mean difference (\bar{y}) = $\frac{111}{22} = 5.04$

$$t = \frac{\bar{y} - 0}{\sqrt{\frac{S^2}{n}}} = \frac{5.04}{0.6946} = 7.263^{**} \text{ with 21 d. f.}$$

** Significant at P less than .001.

This analysis indicates that the positive reinforcement of delinquent responses occurred significantly more often ($P < .001$) than the punishment of delinquent responses, substantiating Hypothesis II. The result supports the finding of Patterson (32) and is in agreement with descriptive literature that suggests the institutionalized peer group is highly rewarding of anti-social behavior.

For example, after viewing teen-age industrial school and reformatory boys, Horsch and Davis (24) concluded that a boy's participation in infractions of discipline secured the "appreciation" of his peers. In a previously cited study, Fisher (14) found the most physically and verbally aggressive institutionalized delinquent boys received the "approval" of the other boys.

To test Hypothesis III, that punishment of non-delinquent responses occurs more frequently than positive reinforcement of non-delinquent responses, the analysis shown in Table VIII was utilized.

TABLE VIII. THE DIFFERENCE OF TYPE OF REINFORCEMENT CONTINGENT UPON NON-DELINQUENT RESPONSES OBSERVED IN SUBJECT PERIODS

Subject Period	Types of Reinforcement for Non-Delinquent Responses y		
	Punishment (ND-)	Positive Reinforcement (ND+)	(ND-) - (ND+)
C 1	1	0	1
C 2			
C 3	3	0	3
C 4	2	1	1
C 5	0	1	-1
C 6			
C 7	2	0	2
C 8	1	2	-1
C 9			
C 10	2	3	-1
C 11			
O 1	4	0	4
O 2			
O 3	1	1	0
O 4			
O 5			
O 6	2	0	2
O 7	3	0	3
O 8	1	0	1
O 9	1	0	1
O 10			
O 11	1	0	1
Total			16

n = 14

mean difference (\bar{y}) = $\frac{16}{14} = 1.14$

$$t = \frac{\bar{y} - o}{\sqrt{\frac{S^2}{n}}} = \frac{1.14}{.4175} = 2.738* \text{ with 13 d. f.}$$

* Significant at P less than .01.

The analysis demonstrates that the punishment of non-delinquent responses occurred significantly more often ($P < .01$) than the positive reinforcement of non-delinquent responses, supporting Hypothesis III.

The results of this analysis support Patterson's (32) finding that socially acceptable behaviors tended to be punished by the peer group. Grosser (19) describes the institutionalized peer group's application of "sanctions" to any member who deviates from peer accepted delinquent behaviors.

Of interest to the present study were the types of behaviors utilized by the girls in their delinquent and non-delinquent interpersonal communications. The method utilized for classifying the observed behaviors was the Interpersonal Communication Behavior Analysis Method shown in Table II.

The distribution data of delinquent and non-delinquent responses for all cottages according to the Interpersonal Communication Behavior Analysis Method are shown in Table IX.

Table IX indicates that about one half of the delinquent and non-delinquent responses observed, i. e. , 45.5 percent of delinquent and 55.3 percent of non-delinquent, are included in the Level III (speech). Approximately one third, i. e. , 30.2 percent of delinquent and 35.7 percent of non-delinquent, occurred on Level II (motor movement). Level I (biochemical) was utilized to a greater extent in delinquent

TABLE IX. PERCENTAGE DISTRIBUTION FOR DELINQUENT AND NON-DELINQUENT RESPONSES FOR ALL COTTAGES ACCORDING TO THE INTERPERSONAL COMMUNICATION BEHAVIOR ANALYSIS METHOD

Responses	Number of Response Levels	Four Primary Levels of Communication *							
		Biochemical		Motor			Speech		Technology
		1	2	3	4	5	6	7	8
Delinquent	288	4.9	19.4	2.1	20.1	8.0	0	45.5	0
		24.3			30.2		45.5		0
Non-delinquent	56	3.6	5.4	10.7	17.9	7.1	0	55.3	0
		9.0			35.7		55.3		0

* I. Biochemical
 1. Body Contact
 2. Affect

III. Speech
 6. Sound
 7. Verbal

II. Motor Movement
 3. Posture
 4. Facial Movement
 5. Gesture

IV. Technology
 8. Technology

responses (24.3 percent) than in non-delinquent responses (9.0 percent) because "laughter" (subcategory 2) was observed more often as part of a delinquent response than a non-delinquent response.

The lack of any observations made of behaviors on Level IV (technology) was largely due to the staff policy forbidding "note sending" between girls. It is interesting that some of the communication seen on the first three levels of communication alluded to previous note writing implying that clandestine communication occurs on Level IV.

The percentage distribution for delinquent and non-delinquent responses by cottages and open and closed cottage condition according to the Interpersonal Communication Behavior Analysis Method is shown in Table 1 of Appendix I.

The reinforcements contingent upon responses were also categorized according to the Interpersonal Communication Behavior Analysis Method to see what levels of behavior were utilized by peers to reinforce delinquent and non-delinquent responses. These data are shown in Table X.

TABLE X. THE PERCENTAGE DISTRIBUTION OF POSITIVE REINFORCEMENTS AND PUNISHMENTS FOR DELINQUENT AND NON-DELINQUENT RESPONSES FOR ALL COTTAGES ACCORDING TO THE INTERPERSONAL COMMUNICATION BEHAVIOR ANALYSIS METHOD

Reinforcements	Number of Rein. Levels	Four Primary Levels of Communication* Plus Ignore								
		Biochemical			Motor		Speech		Tech.	Ignore
		1	2	3	4	5	6	7	8	ig
Delinquent Positive Rein.	406	2.7	43.1	0.7	33.7	2.0	0.7	17.0	0	0
		45.8			36.4			17.7	0	0
Delinquent Punishments	62	0	1.6	4.8	24.2	8.3	0	33.9	0	27.4
		1.6			37.3			33.9	0	27.4
Non-delinquent Positive Rein.	28	10.7	0	0	53.6	0	0	35.7	0	0
		10.7			53.6			35.7		0
Non-delinquent Punishment	75	0	16.7	1.3	20.0	4.3	0	22.7	0	34.7
		16.7			25.6			22.7	0	34.7

* I. Biochemical
 1. Body Contact
 2. Affect

III. Speech
 6. Sound
 7. Verbal

II. Motor Movement
 1. Posture
 2. Facial Movement
 3. Gesture

IV. Technology
 8. Technology

In the positive reinforcement of delinquent responses, it would appear from Table X that Level I (biochemical) is the principal form of communication used. It should be noted that subcategory 2 predominates in the total for Level I, which was probably due to the high incidence of laughter used as a positive reinforcement of delinquent responses. Behaviors on Level III (speech) were the least frequently used in reinforcing delinquent responses.

A comparison of the positive reinforcements of delinquent responses with the positive reinforcements of non-delinquent response is difficult because of the low frequency of observed non-delinquent positive reinforcements. Although there is a lower frequency of behaviors in Level I (biochemical) for non-delinquent positive reinforcements, the relationship between Levels II (motor movement) and III (speech) is similar to the relationship between Levels II and III for delinquent positive reinforcements.

For the punishment of delinquent and non-delinquent responses, the category "ignore" has been added to the Interpersonal Communication Behavior Analysis Method. Approximately 30 percent of the behaviors considered punishing in this study were classified as "ignoring" behaviors, i. e. , 27.4 percent of the punished delinquent behaviors and 34.7 percent of the punished non-delinquent behaviors.

The relative frequencies of Levels II (motor movement) and III (speech) for punished delinquent and non-delinquent responses are

more nearly equivalent than the relative frequencies of these levels for positively reinforced delinquent and non-delinquent responses. This suggests that Level III (speech) was used more often for punishment than for positive reinforcement of both delinquent and non-delinquent responses.

The distribution of positive reinforcements and punishments for delinquent and non-delinquent responses by cottages and open and closed cottage condition according to the Interpersonal Communication Behavior Analysis Method is shown in Table 2 Appendix I.

Limitations of the Study

The major limitations of this study are as follows. The participant observational method relying on "recall" used in the study has some shortcomings in recording human interpersonal communications. However, in a setting such as an institution for adolescent delinquents where the subjects under observation would be extremely unlikely to tolerate the presence of an observer openly recording their behaviors, the use of recall was decided as the best available alternative.

A twenty-five minute period of observation before recording was used because the delinquent and non-delinquent episodes occurring within a twenty-five minute period were believed to be reliably recalled, as was indicated by the observer reliability data. Had the behaviors under study occurred more or less frequently, the length of

the observation period before recording would have been adjusted accordingly.

The adequacy of the data obtained was believed to be enhanced by the fact that the girls were unaware they were under specific observation. The fact that the observer could move around among the girls allowed her to stay close enough to the subject to get a good view of the levels of communication utilized, and therefore the change of missing subtle communications was less than if the observer had been confined to a stationary position.

The effect of the observer on the environment was believed to be minimized considerably by the acclimatization period preceding formal observations. Her very presence would always introduce some environmental change; however she tried to keep her influence as low as possible by minimizing her interaction with the girls.

Another limitation is evident in the scope of the study's findings. The classification of a behavior contingent upon a response as being positively reinforcing or punishing was determined by whether the behavior described in the behavioral record appeared to convey attention and/or approval or disinterest and/or disapproval. The effectiveness of behaviors classified as attention, approval, disinterest, or disapproval in modifying the behaviors of others has been shown in other studies (1, 29, 48).

In the present study, the significant number of group delinquent

responses in comparison with the non-delinquent responses suggests that the contingent reinforcements classified as attention, approval, disinterest, and disapproval were generally effective as social reinforcements. However, it should be emphasized that how individual girls may have interpreted and utilized the reinforcements they received depended on many factors outside the scope of this study.

For example, the unique relationship between a girl and her reinforcing peer(s) would partially determine whether she would interpret a reinforcing "smile" as sincere "approval" or sarcastic "disapproval." A longitudinal study measuring changes in responses with respect to reinforcements received would be useful to determine the differences in how individual girls interpret and are influenced by the reinforcements they receive from peers.

Implications of the Study

The findings of this study suggest that one of the causes of the perpetuation of anti-social, delinquent values within the institution may be the high frequency of positive reinforcements given for delinquent responses and the low frequency of positive reinforcements given for non-delinquent responses. It is possible that a desired change of institutionalized children's behavior from delinquent to non-delinquent might be achieved through the "guided" application of reinforcement principles upon (1) the interaction between staff

members and children, and (2) the interaction between peers.

The traditional training school where the staff relies upon discipline techniques to achieve behavioral change (8, p. 122-123) could be reoriented according to reinforcement principles to include appropriate rewarding techniques. The need to emphasize the significance of positive reinforcements occurs because it has been shown that punishment alone may only be effective in temporarily "suppressing" the undesired behaviors (2, 37). However, social punishments can be effectively combined with positive reinforcement of incompatible responses under appropriate conditions. Bandura and Walters state

Aversive stimulation . . . can be very effective in changing behaviors if desirable responses are elicited and rewarded while the undesirable response is suppressed. In these circumstances it may be the quickest and most effective way of producing change (3, p. 15).

Accordingly, it would seem necessary for staff members to be aware of the importance of positively reinforcing behaviors incompatible with delinquent behaviors as well as showing disapproval for delinquent behaviors. Because of the frequency and intensity of the positive reinforcements offered by peers for behaviors that are not compatible with staff behavioral goals, of major importance is the need for finding a way to induce the peer group to positively reinforce socially acceptable behaviors in the individual group member.

Although this appears to be an extremely difficult task in the

large training school situation, Grosser (19) and Patterson (32) suggest a method of producing change in the reinforcements offered by peers. Tangible rewards could be ascertained which would have particular value for the peer group members, and the granting of these rewards would be done according to "group" performance rather than "individual" performance. If the rewards were valued by enough of the peers, it is possible that the group members would positively reinforce the behavior(s) necessary to achieve the group reward, and show disapproval when girls failed to comply and therefore lost or postponed the reward for the group. The granting of rewards to the entire group may begin on a daily basis, then, Patterson states:

Gradually, the standards are increased so that the group is paid off when all members of the group have shown acceptable behavior for a week past, e. g. , no attempts to run away, no fighting, doing satisfactorily in their schoolwork, no coarse language, etc. As these standards increase, so will the value of the reinforcer have to be increased. The reward at this point will have to be something which the group values very much, e. g. , a trip to the beach. And, secondly, (but not of less importance), points must be given toward this valued incentive at each small step. On each occasion when the group shows some small progress, they should receive a symbolic payoff immediately, e. g. , a certain number of points (32, p. 9-10).

Positive effects might also be obtained if individuals or small groups of delinquents were exposed frequently to influential social agents near their own age who would positively reinforce socially acceptable behaviors. Many college students participating on a

regular basis in activities involving direct social interaction with the delinquent adolescents would allow the adolescent to receive numerous positive reinforcements for non-delinquent responses from non-staff members who would be nearer the age of peers. Examples of such interaction are sports activities, camping trips, dances, parties, and perhaps even the sharing of residential quarters.

There is general concensus in the literature (8, 25, 38, 41) that any attempt at changing the values of delinquents would be easier away from the large training school setting. Cohen (8, p. 122-123) criticizes the large heterogeneous training school unit where the most influential leaders are often the most "delinquent." He suggests an improvement on the traditional training school would be to carefully "screen" children into different types of institutions according to their particular problems, so there would not be close interaction of all types of children within the same institution. His suggestion was supported by the finding in the present study that no difference was seen between open and closed cottages in the frequency of staff conforming behaviors. Dominant anti-social behaviors tend to be positively reinforced in all units of a heterogeneous institution even when some attempt has been made to classify children into "homogeneous" living groups. A possible reason for the lack of differences in behavior between groups within a heterogeneous setting could be the daily mixing of the different cottage populations in the academic

school program and recreational activities. Also, the criteria used for screening new arrivals at the institution into separate cottages may not adequately classify individuals into groups that are truly homogeneous.

Cohen's support of smaller, homogeneous groups would seem advisable according to reinforcement principles, since in the small group the adult's reinforcements might tend to be more effective because of a more intimate child-adult relationship. He states that in a smaller group the following is more likely to occur:

Each child interacts rather intensively with each of a small number of adults in a variety of settings, rather than superficially with a large number of adults and with each in a specialized setting (8, p. 123).

In this chapter, the findings of the study were presented, some possible limitations of the study given, and some implications for treatment of delinquents stated.

SUMMARY

The purpose of this study was to compare the occurrence of delinquent and non-delinquent responses and their contingent social reinforcements during informal peer interaction at a training school for adolescent delinquent girls. The study also explored the levels of communication on which the behaviors occurred.

Delinquent and non-delinquent responses were defined according to expressed support or rejection of staff behavioral expectations. Positive reinforcements were defined as attentive or approving behaviors while punishments were defined as inattentive or disapproving behaviors contingent upon responses.

Target subjects were randomly selected in each of two open and two closed cottages. A total of eleven open and eleven closed cottage subjects' peer interaction was observed.

A participant observer was introduced to each of the four cottages as a "college girl interested in meeting the girls and learning about cottage life." The observer spent a brief acclimatization period in each cottage and established observer reliability before formal observations were begun.

During the period of data collection, the observer alternated among the four cottages on different nights during evening "leisure" time when the girls were together in their cottage dayroom. She

observed each target subject's peer interaction according to a rotating schedule for two twenty-five minute periods on different nights. The observer did no recording in front of the girls and withdrew from the group after each twenty-five minute observation period to record in descriptive form all the behaviors observed in each delinquent and non-delinquent episode in which the subject had participated.

After rater reliability was established, the descriptive records were coded according to the following:

- 1) The type of response (delinquent or non-delinquent).
- 2) The type(s) of reinforcements (positive reinforcement or punishment).
- 3) The levels of communication utilized in peer interaction.

Data were treated by a hierarchical analysis of variance test to determine cottage and open and closed cottage condition differences.

A t-test of differences was used to test the following hypotheses:

- 1) The occurrence of delinquent responses exceeds the occurrence of non-delinquent responses.
- 2) The positive reinforcement of delinquent responses exceeds the punishment of delinquent responses.
- 3) The punishment of non-delinquent responses exceeds the positive reinforcement of non-delinquent responses.

The results indicated that no differences occurred among cottages or between open and closed cottage condition for delinquent and non-delinquent responses observed or for the types of reinforcements given for delinquent and non-delinquent responses. The analyses for the three hypotheses indicated the following:

- 1) Delinquent responses occurred significantly more often than non-delinquent responses.
- 2) Delinquent responses were positively reinforced significantly more often than they were punished.
- 3) Non-delinquent responses were punished significantly more often than they were positively reinforced.

This study served the important purpose of applying reinforcement principles in the study of human interaction within a natural, non-laboratory setting. It contributes to the expanding research exploring the place of social reinforcement in interpersonal communication, especially within the realm of the adolescent delinquent peer group.

The systematic classification of behaviors according to the levels of communication represents a method by which a more complete understanding can be obtained of ways people communicate in informal interaction. The tentative finding of this study showing that many communicating behaviors occurred on the "biochemical" and "motor movement" levels suggests that much social learning takes place through non-verbal communication.

The confirmation of the three hypotheses is in agreement with the literature suggesting that anti-social behavior occurs frequently within institutions and is likely to be learned and maintained through inmate peer group association.

These findings specifically suggest that the anti-social learning

that takes place within juvenile institutions occurs because of the high frequency of positive reinforcements given by peers for delinquent responses. The low frequency of positive reinforcements and the high frequency of punishments offered for non-delinquent responses would tend to keep the learning of socially acceptable behaviors at a minimum level.

It is suggested that ways must be found to modify the types of reinforcements institutionalized delinquents receive for socially acceptable and anti-social behaviors. Only then might we have a sound basis for expecting desirable value change within the institution.

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APPENDICES

APPENDIX A Information about Subjects Regarding Age, Race, Length of Residence at Hillcrest and Reason for Admission to Hillcrest.

Subjects and Cottages ¹	Age (Yrs) ³	Race ²	Length of Residence ⁴ (mo.)	Reason for Admission
CI				
C1	16.0	C	30	Runaway
C2	15.0	C	8	Beyond adult control
C3	16.0	C	5	Probation Violation
C4	15.5	N	2	Assault
C5	14.0	C	4	Runaway
C6	14.5	C	6	Runaway;theft
CII				
C7	16.5	C	2	Runaway;Immoral conduct
C8	16.0	C	28	Runaway
C9	17.5	C	13	Shoplifting;Immoral conduct
C10	15.0	N	4	Runaway;Truancy
C11	16.5	C	2	Runaway
OI				
O1	13.5	C	3	Runaway;Alcohol
O2	14.5	N	10	Runaway
O3	18.0	C	4	Probation violation
O4	15.0	C	4	Runaway
O5	15.5	C	5	Truancy
OII				
O6	16.5	C	3	Runaway;Immoral conduct
O7	16.0	C	18	Incorrigible
O8	16.0	C	6	Runaway
O9	15.0	C	3	Immoral conduct
O10	17.0	C	2	Beyond adult control
O11	16.5	N	4	Runaway

1. C - Closed cottage condition
O - Open cottage condition

2. Race
C - Caucasian
N - Negro

3. Age at beginning of observation

4. Length of residence at beginning of observation

APPENDIX B

Memorandum Introducing Observer to Cottage Staff

FROM: Miss Marjorie G. McBride, Superintendent

It is my pleasure to introduce to each one of you (and I would appreciate it if you would in turn introduce her to the girls) Miss Jean Furniss, an Oregon State University graduate student.

Miss Furniss is working on a research project for her Master's thesis, involving interpersonal communications. Her purpose in being at Hillcrest School is to observe the students during their free time, which will generally be from around 5 p. m. until they go to bed in the evening, and also on weekends.

Miss Furniss would appreciate it if the cottage staff would not pay any particular attention to her, as she would just busy herself in talking with or participating with these students on their particular cottages.

Miss Furniss has also requested that the cottage staff not make a big point of her being on the cottages or that this is a research project for her. We want the communications between the students and staff, as well as the activities in the unit involving communication and activities, to be as "normal" as possible.

Miss Furniss will not be issued a key. Therefore her going in and out of the cottages will have to be managed by the staff on duty.

At the present time her plan would be to rotate between the four cottages listed above, and her time will be her own as to when she might visit.

I would appreciate our staff's extending any courtesy or help to Miss Furniss that she might desire.

Dr. Buehler will be escorting Miss Furniss around our campus to introduce her to the staff and counselors sometime this week so that each one of you might meet her personally and have an opportunity to talk with her.

APPENDIX C Descriptions of Delinquent and Non-delinquent Subcategories with Representative Examples From the Data

Subcategory	Delinquent	Non-delinquent
1. Modesty with respect to sexual expressions and general conduct.	<p>Any immodest sexual or vulgar behavior. Included were examples of bragging about homosexual or heterosexual experiences, approving references to prostitution, twisting words or remarks into ones with sexual connotations, vulgar, profane remarks or gestures.</p> <p><u>Examples:</u> * "We fruited off all the way back to the cottage!" * "It's 'horney' not 'corney'" * "You ugly white whore!"</p>	<p>Any indication of disapproval or lack of identification with immodest behavior.</p>
2. A support of staff and society authority figures.	<p>Any indication of lack of support or identification with staff or other authority figures exemplified by ridicule, defiance, resistance, criticism.</p> <p><u>Examples:</u> * "That <u>fool</u> never does nothing!" (referring to staff member) * "She says I'm sloppy; she's the sloppy one!" (sullen expression)</p>	<p>Any indication of support or trust in staff or other authorities.</p> <p><u>Examples:</u> * "She's nice when you really get to know her." (referring to staff member) * Two girls are arguing over</p>

APPENDIX C con't.

Subcategory	Delinquent	Non-delinquent
	<p>*As the housemother turns away from group, a girl twists her face in a grotesque expression at her back.</p> <p>*"Man, the fuzz was all over; they 'bout ruined the day!"</p>	<p>the "truth" of something. One says "It is too, Mrs. _____ said so!" (referring to staff member)</p>
<p>3. A support of the institution and its properties.</p>	<p>Any example of behavior attacking the institution or its property.</p> <p><u>Examples:</u></p> <p>*"Man, she busted her room up good." (smiles)</p> <p>*Throwing glasses against the wall.</p> <p>*"I hope the first bomb hits Hillcrest!"</p> <p>*"We get some real junk here." (referring to food etc.)</p>	<p>Any example of support of the institution and its property.</p> <p><u>Examples:</u></p> <p>*"Oh, don't break it! (referring to large pitcher another girl was swinging.)</p>
<p>4. Identification with a non-delinquent, law-abiding way of life.</p>	<p>Any example of identification with illegal, anti-social behavior, non-sexual in nature, such as drug addiction, stealing, winning money illegally, vandalism, drunkenness.</p>	<p>Any demonstration of rejection of illegal behavior.</p>

APPENDIX C con't.

Subcategory	Delinquent	Non-delinquent
5. Initiative shown toward school work, vocational training and cottage programs.	<p><u>Examples:</u> * "I thought you was on the needle" (smile) *A discussion on how to get several packs of cigarettes out of a machine with one quarter. *"They was so drunk, they couldn't stand up!" (smile)</p>	<p><u>Examples:</u> *Repulsion at effects of drug addiction.</p>
6. Consideration, concern, and respect for other people.	<p>Any indication of lack of initiative and interest shown toward school work, vocational training, or cottage programs.</p> <p><u>Examples:</u> *"I'm getting all F's this time." (smile) *"I'm not doing it!" (referring to school homework) "I'll copy _____'s." *"I can't leave 'til I get some job training." (said bitterly)</p> <p>Any example of lack of consideration or concern for safety or rights of others. Included were examples of physical abuse (or discussion of it) and indications of disregard for the lives and happiness of others(not including staff and authorities)</p>	<p>Any demonstration of initiative shown toward these programs.</p> <p><u>Examples:</u> *"I've never made <u>anything</u> before!" (excited about sewing) * "I hope I get my license next year." (beautician)</p> <p>Any indication of concern for others.</p>

APPENDIX C con't.

Subcategory	Delinquent	Non-delinquent
	<p><u>Examples:</u> *One girl hits another sharply on the head with a hair brush. *"I beat her up good before once or twice on the outs." (smile) * "Oh, I hope it crashes!" (referring to a crippled airplane reported on the news)</p>	<p><u>Examples:</u> *"I hope they can save that darling little girl." (referring to T. V. program) *"Oh, I <u>hate</u> seeing old people treated like that!" *Sympathy shown for girl who is upset because her horse has been sold.</p>

APPENDIX D Criteria used for Classifying a Reinforcement as
"Positive" Reinforcement or "Punishment. "

For the purposes of this study, the following criteria described by Patterson (32) were used for classification of reinforcing behavior.

Positive Reinforcement

Attention: Any peer behavior contingent upon a response indicating attentiveness and recognition of the response but not openly indicating "approval" or "disapproval," e. g. , watching closely the person emitting the response; appearing to listen closely.

Approval: Any peer behavior contingent upon a response implying "agreement," e. g. , nodding head, saying "yes," imitating, paraphrasing and "acceptance" of the response, e. g. , smiling, laughing, showing general enthusiasm for action or thought expressed.

Punishment

Disinterest: Any peer behavior contingent upon a response indicating lack of interest, e. g. , bored, apathetic expressions, looking or moving away, statements implying lack of interest, ignoring the response.

Disapproval: Any peer behavior contingent upon a response implying "disagreement," e. g. , shaking head, saying "no," "don't do that," and lack of acceptance of the response shown by such behaviors as frowning, glaring, ridiculing, or threatening the person emitting the response.

APPENDIX E. Method for Coding Behavioral Records Using Examples from the Data

Descriptive Record	Response (D or ND) and Levels	Positive Reinforcement and Levels	Punishment and Levels
<p>1) The little girl of the family on T. V. does not want to go to bed. She says dejectedly, "All I ever get to do at night is go to bed." G-A bursts into laughter: "I wish that was all I ever got to do at night!" G-B: "Ohh!" (giggles), G-C, G-D, G-E all smile.</p>	G-A: D 27	G-B: 27 G-C: 4 G-D: 4 G-E: 4	
<p>2) G-A and G-B are talking and G-A begins complaining about one of the teachers. G-A: "He doesn't grade fair; he's <u>not</u> fair; he gives us college work!" (face takes on a solemn expression) G-B: "He is too fair." (disgusted look toward G-A)</p>	G-A: D 47		G-B: 47
<p>3) G-A, G-B, G-C, G-D are sitting together at a card table. G-A mentions a staff member: "Old Miss _____'s the one I hate worst; old witch!" (eyes narrowed and a glare on her face as she speaks) G-B nods her head vigorously; G-C and G-D ignore the comment and continue looking at cards.</p>	G-A: D 47	G-B: 4	G-C: ig G-D: ig
<p>4) G-A and G-B are playing a marble game. G-A says (in reference to beautician training course she's taking): "I hope I get my license next year!" (slight smile on her face) G-B nods: "Then you'll really have it made."</p>	G-A: ND 47	G-B: 47	

APPENDIX E. cont'd.

Descriptive Record	Response (D or ND) and Levels	Positive Reinforcement and Levels	Punishment and Levels
<p>5) G-A, G-B, G-C, G-D have been watching a T. V. program that showed a lonely old woman being fired from a job that had been meaningful to her. G-A: "Oh, I hate seeing old people treated like that!" (said emphatically) G-B glances apathetically at G-A. G-C and G-D completely ignore G-A.</p>	G-A: ND 7		G-B: 4 G-C: ig G-D: ig

Key

Participants in each act are denoted by G-A, G-B. . . . G-E.

D - Delinquent response

ND - Non-delinquent response

Numerals denote the subcategories of communication (See Table II).

ig - ignore

APPENDIX F. Observer Reliability: Percentage-Agreement between Observers A and B for Behavioral Records

1. Total episodes observed: the degree of agreement between the general "delinquent" and "non-delinquent" incidents observed.

Total Episodes Observed	Total Episodes Disagree	Total Episodes Agree	Percent of Agreement
9	1	8	89

2. Total acts observed: the degree of agreement between acts within episodes observed (response-reinforcement contingencies).

Total Acts Observed	Total Acts Disagree	Total Acts Agree	Percent of Agreement
11	2	9	81.8

3. Response communication levels: The degree of agreement for the levels of communication used in responses.

Total Levels Observed	Total Levels Disagree	Total Levels Agree	Percent of Agreement
14	3	11	78.4

4. Reinforcement communication levels: the degree of agreement for the levels of communication used in reinforcements.

Total Levels Observed	Total Levels Disagree	Total Levels Agree	Percent of Agreement
13	1	12	92.2

APPENDIX G. Rater Reliability: Percentage-Agreement between Raters A and B in Classification of Behavioral Record Data.

1. Classification of descriptive records into "Acts"

Total Acts Classified	Total Disagree	Total Agree	Percent Agreement
65	3	62	95.3

2. Classification of responses as to Delinquent or Non-delinquent

Total Responses Classified D or ND	Total Disagree	Total Agree	Percent Agreement
62	0	62	100

3. Classification of Delinquent and Non-delinquent responses according to levels of communication

Total Levels Classified	Total Disagree	Total Agree	Percent Agreement
108	2	106	98.2

4. Classification of positive reinforcements for Delinquent and Non-delinquent responses

Total Positive Rein. Classified	Total Disagree	Total Agree	Percent Agreement
123	1	122	99.2

5. Classification of positive reinforcements for Delinquent and Non-delinquent responses according to levels of communication

Total Levels Classified	Total Disagree	Total Agree	Percent Agreement
170.5	3.5	167	97.9

6. Classification of punishments for Delinquent and Non-delinquent responses

Total Punishment Class.	Total Disagree	Total Agree	Percent Agreement
27	2	25	92.6

APPENDIX G. con't.

7. Classification of punishments for Delinquent and Non Delinquent responses according to levels of communication

Total Levels Class.	Total Disagree	Total Agree	Percent Agreement
37	0	37	100

APPENDIX H - TABLE 1. The Distribution of Delinquent and Non-delinquent Responses as Percentages into Subcategories by Cottages and Open -(O) and Closed-(C) Cottage Condition.

	Cottage	Number of Responses	Sex	Institution and				Considera- tion
				Authority	Property	Identification	Initiative	
Delinquent	CI	48	35.4	14.6	0	12.5	12.5	25.0
	CII	37	32.4	13.5	21.6	10.8	5.4	16.2
	Total C	85	34.1	14.1	9.4	11.8	9.4	21.2
	OI	38	28.9	21.0	5.3	10.5	0	34.2
	OII	39	23.1	25.6	12.9	15.4	12.9	10.3
	Total O	77	26.0	23.0	9.1	13.0	6.5	22.1
Total O + C		162	30.2	18.5	9.3	12.4	8.0	21.6
Non- delinquent	CI	8	0	12.5	0	0	50.0	37.5
	CII	12	0	0	16.7	0	16.7	66.7
	Total C	20	0	5.0	10.0	0	30.0	55.0
	OI	7	0	42.9	28.6	0	14.3	14.3
	OII	8	0	0	12.5	12.5	50.0	25.0
	Total O	15	0	20.0	20.0	6.7	33.3	20.0
Total O + C		35	0	11.4	14.3	2.9	31.4	37.1

APPENDIX H - TABLE 2. The Frequencies of Positive Reinforcement (+), Punishment (-) and Mixed Reinforcement (M) within Delinquent and Non-delinquent Subcategories.

			Sex	Authority	Institution and Property Identification Initiative			Consid- eration
Delinquent	Closed	+	23	9	6	8	7	14
		-	0	2	2	2	0	3
		M	6	1	0	0	1	1
	Open	+	16	14	5	8	3	14
		-	1	1	1	0	2	2
		M	3	3	1	2	0	1
	Total	+	39	23	11	16	10	28
		-	1	3	3	2	2	5
		M	9	4	1	2	1	2
Non- delinquent	Closed	+	0	0	1	0	1	5
		-	0	1	1	0	5	4
		M	0	0	0	0	0	2
	Open	+	0	0	0	0	1	0
		-	0	3	2	1	4	3
		M	0	0	1	0	0	0
	Total	+	0	0	1	0	2	5
		-	0	4	3	1	9	7
		M	0	0	1	0	0	2

APPENDIX I. - TABLE 1. Percentage Distribution for Delinquent and Non-delinquent Responses by Cottages and Open-(O) and Closed-(C) Cottage Condition according to the Interpersonal Communication Behavior Analysis Method.

	Cottage	No. of Levels in Responses	Four Primary Levels of Communication							
			Biochemical		Motor			Speech		Tech.
			1	2	3	4	5	6	7	8
Delinquent	CI	84	4.8	23.8	0	17.9	7.1	0	46.4	0
	CII	61	0	19.7	1.6	19.7	8.2	0	50.8	0
	CI + CII	145	2.8	22.1	0.7	18.6	7.6	0	48.3	0
	OI	65	15.4	15.4	4.6	18.5	9.2	0	37.0	0
	OII	78	0	17.9	2.6	24.4	7.7	0	47.4	0
	OI + OII	143	7.2	16.8	3.5	21.7	8.4	0	42.7	0
	Total	288	4.9	19.4	2.1	20.1	8.0	0	45.5	0
			24.3			30.2		45.5	0	
Non-delinquent	CI	12	0	16.7	8.3	8.3	8.3	0	58.3	0
	CII	17	5.9	0	17.6	5.9	11.8	0	58.8	0
	CI + CII	29	3.4	6.9	13.8	6.9	10.3	0	58.6	0
	OI	12	8.3	0	8.3	25.0	0	0	58.3	
	OII	15	0	6.7	6.7	33.3	6.7	0	46.7	0
	OI + OII	27	3.7	3.7	7.4	29.6	3.7	0	51.9	0
	Total	56	3.6	5.4	10.7	17.9	7.1	0	55.3	0
			9.0			35.7		55.3	0	

I. Biochemical
 1. Body Contact
 2. Affect

II. Motor Movement
 3. Posture
 4. Facial Movement
 5. Gesture

III. Speech
 6. Sound
 7. Verbal

IV. Technology
 8. Technology

APPENDIX I - TABLE 2. The Percentage Distribution of Positive Reinforcements and Punishments for Delinquent and Non-Delinquent Responses by Cottages and Open-(O) and Closed-(C) Cottage Condition according to the Interpersonal Communication Behavior Analysis Method and Ignore.

	Cottage	No. of Levels in Reinforce- ments	Four Primary Levels of Communication plus Ignore								
			Biochemical		Motor			Speech		Tech. Ignore	Ignore
			1	2	3	4	5	6	7	8	
<u>Delinquent</u>	CI	116	2.6	36.2	0	40.5	3.4	0	17.2	0	
	CII	106	0	44.3	0	35.8	0.9	0	18.9	0	
	CI + CII	222	1.4	40.1	0	38.3	2.2	0	18.0	0	
Positive Reinforcement	OI	118	6.8	57.6	1.7	20.3	2.5	2.5	8.5	0	
	OII	66	0	27.3	1.5	42.4	0	0	28.8	0	
	OI + OII	184	4.3	46.7	1.6	28.3	1.6	1.6	15.8	0	
	C + O	406	2.7	43.1	0.7	33.7	2.0	0.7	17.0	0	
			45.8			36.4		17.7		0	
Punishment	CI	16	0	0	6.2	25.0	6.2	0	18.8	0	43.8
	CII	12	0	0	0	16.7	16.7	0	41.7	0	25.0
	CI + CII	28	0	0	3.6	21.4	10.7	0	28.6	0	35.7
	OI	16	0	0	12.5	37.5	12.5	0	25.0	0	12.5
	OII	18	0	5.6	0	16.7	0	0	50.0	0	27.8
	OI + OII	34	0	2.9	5.9	26.5	5.9	0	38.2	0	20.6
	C + O	62	0	1.6	4.8	24.2	8.3	0	33.9	0	27.4
			1.6			37.3		33.9		0	27.4

APPENDIX I - TABLE 2. (Continued)

	Cottage	No. of Levels in Reinforce-ments	Four Primary Levels of Communication plus Ignore								
			Biochemical			Motor			Speech		Tech.
			1	2	3	4	5	6	7	8	Ignore
<u>Non-delinquent</u>	CI	3	0	0	0	33.3	0	0	66.7	0	
	CII	20	10.0	0	0	60.0	0	0	30.0	0	
	CI + CII	23	8.7	0	0	56.5	0	0	34.8	0	
Positive Reinforcement	OI	5	20.0	0	0	40.0	0	0	40.0	0	
	OII	0	0	0	0	0	0	0	0	0	
	OI + OII	5	20.0	0	0	40.0	0	0	40.0	0	
	O + C	28	10.7	0	0	53.6	0	0	35.7	0	
			10.7			53.6		35.7		0	
Punishment	CI	19	0	10.5	0	10.5	5.3	0	21.1	0	52.6
	CII	25	0	20.0	0	24.0	0	0	16.0	0	40.0
	CI + CII	44	0	15.9	0	18.2	2.4	0	18.2	0	45.4
	OI	14	0	14.3	0	28.6	7.1	0	21.4	0	28.6
	OII	17	0	17.6	5.9	17.6	11.8	0	35.3	0	11.8
	OI + OII	31	0	16.1	3.2	22.6	9.6	0	29.0	0	19.4
	C + O	75	0	16.7	1.3	20.0	4.3	0	22.7	0	34.7
			16.7			25.6		22.7		0	34.7
	I Biochemical		II Motor Movement				III Speech		IV Technology		
	1. Body contact		3. Posture				6. Sound		8. Technology		
	2. Affect		4. Facial Movement				7. Verbal				
			5. Gesture								