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VERBAL RESPONSES OF INSTITUTIONALIZED  
DELINQUENT AND NON-DELINQUENT ADOLESCENT  
GIRLS TO TAT STIMULI UNDER AUDITORY  
OCCLUSION.

University of North Carolina at Greensboro,  
Ph.D., 1973  
Home Economics

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VERBAL RESPONSES OF INSTITUTIONALIZED DELINQUENT  
AND NON-DELINQUENT ADOLESCENT GIRLS TO TAT  
STIMULI UNDER AUDITORY OCCLUSION

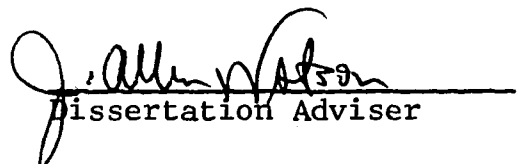
by

Mallie B. Penry

A Dissertation Submitted to  
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APPROVAL PAGE

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The purpose of this study was to explore the verbal accessibility of institutionalized delinquent and non-delinquent adolescent girls to TAT stimuli under auditory occlusion. The study was designed as a companion study to one conducted by Lorenz Villeponteaux (1972) in which he tested verbal responses of delinquent adolescent boys.

The problem centered around determining if the two samples differed in their verbal responses under auditory occlusion.

Basic assumptions of the study were that both groups of girls would respond similarly to auditory occlusion but the delinquent girls would be less verbal initially, and the effects of auditory occlusion would be greater on the non-delinquents' verbal responses, the latency time, and the impulsivity rating of the verbal responses.

Twenty-five Caucasian subjects from a residential facility for adjudicated delinquent girls and thirty-one from a residential facility for the care of homeless children met the IQ criteria of 80 or above and were used in the study. The sample in each institution was randomly assigned

to one of two treatment groups. Each subject was individually pretested and posttested.

Scores were the actual word count of verbal responses, length of speaking time, words spoken per minute, and the latency time between presentation of the stimulus and the initial verbal response.

Verbal responses of the subjects were recorded and these nominal data were rated by four judges as impulsive or defensive, I or D, and scaled for analysis.

Analyses indicated neither noise nor delinquency had any significant effect on latency time. White noise masking showed no significant effect on change in number of words spoken, but the non-delinquent spoke significantly more words than the delinquent during pretest and posttest under both conditions of the study, in experimental and control groups.

Significant interaction effect on the length of speaking time between delinquency and white noise masking was found. Under white noise masking the delinquent took a shorter time than with no noise to say the same number of words. On the contrary, the non-delinquent took a longer time to say the same number of words under white noise masking as compared to no noise.

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## CHAPTER I

### INTRODUCTION

The purpose of this study was to explore the verbal accessibility of institutionalized delinquent and non-delinquent girls in a companion study to one conducted by Villeponteaux (1972) in which he tested the effect of auditory occlusion on verbal responses of delinquent adolescent boys.

#### Nature of the Study

Konopka (1966), Cavan (1969a), and Richette (1969), women who have dedicated a great part of their professional life to a study of juvenile delinquency and working directly with delinquent girls, all agreed that the delinquent adolescent girl lacks the ability to verbalize her feelings. West (1967) found the majority of the delinquent girls he studied to be shy, inhibited, and timid, with only a few acting out with boisterous, destructive behavior typical of the delinquent boy.

Konopka (1966) identified acting out in the girls as a deeply personalized problem, involving the total being of the

girl in sexual disturbance or sexually deviant behavior. Such behaviors usually accompanied the most frequent offenses of the delinquent girls, identified as shoplifting, truancy and running away. Konopka (1966) felt sexual deviance demonstrated a yearning for friendships the girls had little capacity for maintaining.

Cavan (1969a), in elaborating on the non-aggressive offenses of running away and larceny in the delinquent girl, pointed out that the girl's offenses suggest she is in a struggle against adult authority. Generally the girl is concerned with evading interpersonal relationships at home and establishing successful relationships with boys. The resulting possibility of pregnancy adds to the need for protection and support and the girl's feelings of isolation and desertion when her environment does not supply her need. Common to the environment of most delinquent girls are economic and social deprivation, frustration, ignorance, fear, and degradation. Parents are as frustrated as the girl and vent their anger on the even more powerless adolescent (Konopka, 1966). The delinquent girl meets adults as authority without loving care. Communication within the home is at best only minimal, leaving the girls alone, frightened, angry, or desperate.

Developmentally, adolescence itself is a transition period and feelings of being alone in an anonymous world are common (Frank, 1952). The problem becomes one of identifying characteristics unique to the delinquent girl. How does she differ from the lonely non-delinquent? Are both equally inaccessible verbally? Could the delinquent adolescent girl be impulsive and thus tend to act out her feelings rather than verbalize them? Would the non-delinquent adolescent girl be defensive and, as the delinquent girl, be non-verbal? How could impulsiveness and defensiveness and the verbal accessibility be identified?

#### Background for the Study

Jaffee and Polansky (1962), after finding in earlier studies that verbal accessibility seemed to be a relatively stable trait of personality in varied social situations, tested the verbal accessibility of a highly delinquent-prone group of adolescent boys and a non-delinquent-prone contrast group. The hypothesis of the study was "that there is an inverse relationship between verbal accessibility and delinquent-proneness (p. 106)." They expected and found that the delinquent-prone boy was more action oriented than ideational or verbally affective. Jaffee and Polansky (1962) were

particularly concerned with the accessibility of the delinquent-prone boy in office style interviews. Their instruments of measurement were paper and pencil tests and self-reported verbal accessibility scales and recorded spontaneous, first statements to Rorschach cards having a feature taken to be an anxiety sign. Results of the study supported the hypothesis that the delinquent-prone boys tested were less verbally accessible, and thus would be questionable subjects for office-type interviews.

Appelberg (1964), using self-avowed verbal accessibility scales and correlated caseworker and staff ratings, found by comparing community home-based and institutionalized adolescents that boy adolescents in residential care were less verbally accessible. Interestingly, she found no difference in the girls of her population. She found also a clear distinction between verbal accessibility of the person and verbal accessibility of the attitude, the former referring to the individual's unique pattern of communication, and the latter referring to the expression of the norm for a given group.

Several studies (Polansky, Weiss, & Blum, 1961; Polansky & Brown, 1967; Polansky, Borgman, DeSaix, & Sharlin, 1971), using scale analysis techniques, have found that whether their subjects were adolescents, mountain mothers, or

emotionally disturbed adolescents in residential care, their verbal accessibility of an attitude in casework was an inverse function of its determinance within the total personality. In other words, attitudes toward current adult figures in casework were consistently highly accessible, but attitudes toward parents were consistently relatively inaccessible, suggesting a norm within the subjects of inaccessibility to verbalizing meaningful personal and emotional feelings.

Based on Konopka's (1966) findings that the total being or personality of the delinquent girl is threatened and her need for intimacy unmet, the above could indicate the delinquent girl would be highly inaccessible verbally for important attitudes or content within her verbalization.

Polansky (1971) credited failure to mature, or regression, as the root of the low need to communicate determinant attitudes. Based on this, he felt that a talking treatment would facilitate affect-expression and the client could be helped to learn to talk in rational, abstract, and problem-solving ways. Polansky demonstrated the plausibility that a change in verbal accessibility could "very well lead to a favorable change in the overall functioning of the personality (p. 201)."



On the assumption that vocalization is informative stimulation, and, like other movement-produced stimulation, depends on appropriate feedback, Klein (1964, 1965) and Klein and Wolitzky (1970), using young adult subjects, male and female, tested for verbalization with vocal masking, or a lack of auditory feedback. Using white noise, a sound produced by a generator that at a certain frequency interferes with bone and air conduction and renders the subject experimentally deaf, the experimenters occluded auditory feedback, preventing voice and word collaboration. The experimenters were interested in the monitoring effect of the auditory feedback on the spoken thought, with spoken thought being the behavior measured. For the behavioral science explanation for what occurs, the experimenters gave credit to Skinner (1957) who identified the importance of auditory feedback in what he termed the "editing process in spoken thought (p. 370)."

The thought behind the Klein (1965) study was that a speaker reacts as audience to his own speech, and if he cannot listen, editing becomes more difficult. In his subjects Klein (1965) found auditory occlusion produced an increase of drive-related content. For some it promoted speaking thoughts not otherwise easily expressed; for others, it intensified

defensive editing tendencies in speech.

In a recent study (Holmes & Holzman, 1966) adult male subjects became more disinhibited under auditory occlusion. They talked longer, and spoke more syllables than did the subjects in a normal condition. The study measured only the length of time the subjects talked, the number of English words used, and the number of syllables spoken.

More recently (Holzman & Rousey, 1970, 1971) content, or the effects of auditory occlusion on spoken thought, was measured in addition to word count. The subjects were middle class white men and women, ages 34 to 39. Results indicated that more impulse-dominated themes and fewer defensively modulated stories appeared under auditory occlusion than under normal conditions.

Contrary to the above, another study (Villepontaux, 1972) showed no significant difference between responses of delinquent adolescent boys to TAT cards under auditory occlusion and in a neutral or no noise state, either in number of words spoken, words per minute, in time lapse between presentation of the stimulus and the initial verbal response, or in the impulsivity ratings.

In the present study TAT cards were presented under white noise to delinquent and non-delinquent adolescent girls.

The study sought to determine if the institutionalized delinquent and non-delinquent adolescent girls of the samples differed in their verbal responses to TAT stimuli under auditory occlusion. Would the delinquent adolescent girls be more impulsive than the non-delinquent adolescent girls? Would auditory occlusion affect the verbalization of the subjects? Would auditory occlusion promote impulsivity in the subjects? Would auditory occlusion affect the latency time between the presentation of the stimulus and the initial verbal response?

#### Assumptions of the Study

Based on the supporting literature that the delinquent girl lacks the ability to verbalize her feelings, the basic assumptions of the study were that both groups of girls would respond similarly to auditory occlusion but the delinquent girls would be less verbal initially, and the effects of auditory occlusion would be greater on the non-delinquents' verbal responses, the latency time, and the impulsivity rating of the verbal responses.

#### Hypotheses

Based on the assumptions of the study, the hypotheses were that

1. the number of words spoken in response to TAT cards,

and the speaking time would increase, the latency time would decrease, and ratings would be more impulsive than defensive for both groups, the delinquent and the non-delinquent, under white noise masking (WNM) than under a no-noise situation (NN).

2. the number of words spoken in response to TAT cards would be greater, the actual speaking time longer, the latency time shorter and the ratings more impulsive in the non-delinquent girls than in the delinquent girls, under WNM.

3. under white noise masking the difference between delinquency and non-delinquency would be less than the difference under no noise.

### Definitions

The present study was limited to adolescent girls, age fourteen and a half years to seventeen and a half years, institutionalized as adjudicated delinquents, or living in a home for homeless children.

The institutionalized delinquent subjects for the study came from a residential care center of the South Carolina Department of Youth Services. For purposes of this study, "delinquent" was defined as the girl institutionalized by jurisdiction of the South Carolina court. In South Carolina institutionalizing a child follows careful screening and a

detailed study of each child in a reception and evaluation center. Residential care is recommended only when deemed absolutely imperative. Adjudication as delinquent follows by the courts.

The institutionalized non-delinquents were girls with no court record presently living in the Baptist Children's Homes of North Carolina, Inc., an institution for the care of homeless children.

The Thematic Apperception Test cards (Murray, 1938) used in the study corresponded to those used by Villeponteaux (1972) and Holzman and Rousey (1970), with cards of the same number from the female series used when applicable. General cards were the same. These TAT cards were selected on the basis of the Kenny and Bijou (1953) studies in which they compared productivity of responses with the ambiguity of the cards. The TAT cards were in turn identified as being low, medium and high in ambiguity. Two TAT cards thus identified as being low in ambiguity were used in the study for habituation of the subject to the actual experiment. For pretesting and posttesting, four medium-ambiguity cards were used. The cards served as stimuli and responses were scored on impulsivity and defensiveness according to a scoring manual developed by Holzman (1966).

Impulsivity and defensiveness represented scorings by four judges: a psychiatrist, two clinical psychologists, and a doctoral candidate in psychology, in accordance with Holzman's (1966) manual for scoring TAT cards. The general rule was: "a story is defensive if an urge or impulse of the hero is blocked, inhibited, undone or denied by himself or someone else. A story is expressive of impulse-discharge if such defenses are unsuccessful or absent (p. 2)."

Auditory occlusion was white noise masking (WNM) or the sound produced by a white noise generator at 100 decibels and played through earphones, blocking bone and air conduction to each subject in the experimental groups.

Speaking time in hypotheses one and two was the time in seconds from the first verbal response of the subject until by word or action the subject indicated she had finished speaking.

Latency time was the time lapse between presentation of the TAT card to the subject and her initial verbal response.

#### Limitations of the Study

The sample for the study was confined in every way possible to the delimitations set by Villeponteaux (1972) for his study with delinquent boys, with the rationale that all other

variables held constant, the study could later be compared with Villeponteaux's and contribute to an understanding of differences or similarities between the sexes of the two samples.

Girls with known hearing defects were excluded.

The experimenter did all of the interviewing, acknowledging the physical delimitation of personality changes within the experimenter.

Randomization within the delimitations of the institutions experimentally equated the groups; however, generalization can only be made to the populations of the institutions from which the samples for the study were drawn, and for the age groups studied within the institutions.

## CHAPTER II

### REVIEW OF LITERATURE

The President's Commission on Law Enforcement and Administration of Justice (The Challenge of Crime in a Free Society, 1967) emphasized America's hope for reducing crime lay in a reduction of juvenile delinquency and youth crime. The challenge is for the helping professions to explore treatment approaches and ways and means of reaching the juvenile delinquent.

In reviewing the literature it was found that the vast majority of studies related to juvenile delinquency have been made with delinquent boys. By comparison there seems to be a paucity of information concerning the delinquent girl. According to Cavan (1969a) the juvenile courts process about four cases involving a boy for every one case involving a girl. Cavan (1969a), however, found that girls were more likely to be released without a court hearing or were referred directly to a social agency. Although Cavan felt this differential treatment accounted for some of the difference in numbers, she also made the suggestion that



girls do not have free run of the community, and family control is greater for the girl. Overall, the aspirations of the adolescent girl and social expectations for her differ from that of the boy. Cavan (1969a) made a valid point when she stated that the problem of girl delinquency could be viewed as even more important than boy delinquency if the girl delinquent carries her problem into marriage and her lack of adjustment affects the rearing of her children. Cavan would give more attention to the girl delinquent as a possible method of curbing delinquency in boys. Konopka (1966) and Klein, et al. (1971) agreed with Cavan on the importance of the girl's influence on the future generations, and attached an importance to the influence girls have on the behavior of boys in either precipitating fights or in curtailing drunkenness and crimes.

On the basis of Konopka's (1966) findings of the importance of human relationships to the delinquent girl, Villeponteaux's (1972) suggestions of a timely approach being one aimed at increasing verbal accessibility seemed appropriate to combine with a closer look at the delinquent girl. Just as a child learns to speak first and then acquires the ability to add content, relations, and feeling; so with the

delinquent who substantially has lost, or never acquired, the ability to communicate verbally her feelings, the first step must be verbalization.

Theoretical justification of the present study involved a review of the changing concepts of causation of delinquent behavior in the past seventy years and possible approaches dealing with the problem.

Following Freud's contribution to the examination and understanding of human personality, the early 1900's produced studies testing the analytic, or dynamic, approach. Healy and Bronner (1926), in a classic study of pairs of delinquent and non-delinquent children from the same family, sought explanations for why one was delinquent and the other not. Their conclusions were that the delinquent behavior was meaningful for the antisocial child and a symptom of underlying conflict. The delinquent could be escaping something unpleasant, compensating for inadequacies, or he could be seeking recognition, status or punishment. Treatment was aimed at the underlying conflict and was lengthy and costly, both financially and emotionally.

In the 1930's genetic theory received prominence following a classic study by Lange (1931), in which identical

twins entertained a strong similarity in criminal behaviors, far beyond chance level, as compared with fraternal twins. For approach to working with the delinquents this decade was discouraging. Destiny controlled, it was believed, and no intervention by man was encouraged as helping.

The decade of the 1950's brought to the field of behavioral sciences the concept that behavior is learned (Dollard & Miller, 1950). Eysenck (1957), a few years later, added the socialization theory that anxiety and inhibitions are a result of the socialization process within the home environment. Horney (1942) had advocated that the determining principle for human behavior was the need for security and that a child will be influenced by his environment. She saw the aggressive child as being basically hostile, and the child who was detached and moved away from people as experiencing isolation. Horney (1942) advocated that if the home was one of warmth, mutual respect, and consideration, the child's growth would be unimpeded, and rather than hostile or isolated, the child would move toward people in satisfying relationships.

Sullivan's (1953) theory encompassed all of these and brought the concept of a need for human intimacy. Sullivan felt that experiences of loneliness are important components

of personality and postulated that these components occur in developmental sequence in the need for contact in infancy, the need for adult participation in activities, and the approval of the adult in childhood, the need for compeers in the early juvenile era, the need for acceptance in late juvenile years, and in the need for intimacy in adolescence.

According to Sullivan's theory loneliness, behavioral-wise, can be observed in the adult in 1) withdrawal from people and contact when the need for tenderness, or contact, is not met, 2) avoidance of interpersonal contact because of the fear of disapproval or rejection and resulting anxiety, and 3) resistance to any overture for interpersonal relations and a repetition of the painful experience. All of these observations describe the delinquent, adolescent girl's behavior.

Redl (1966), in his classic work with children, added strength to the clinical advantage of an interpersonal approach and encouragement of verbal catharsis in therapeutic interviewing and combined ego psychology, seeing "some temporary advantage to the ego in the release found in this opportunity for expression (p. 261)." In the ego-disturbed child he found the fixation on action-proneness a function of an atrophy of verbal symbolization of feelings. Redl (1952) saw

"all successful attempts . . . made to assist the child in the use of words to express feelings . . . as a form of direct support and repair to ego (p. 261)." At some moments in interviews Redl felt that the pure expressional element was important enough that interpretations and manipulative methods should be postponed.

Several theories proposed since 1950 (Redl & Wineman, 1952; Redl, 1966; Reckless, 1961) agree on what Reckless chose to call a containment theory, advocating an inner control as the ego strength of the sociologically potential delinquent who does not become delinquent. Reckless elaborated on the self component ingredients of the theory, emphasizing self-control, good self-concept, ego strength, well-developed superego, high frustration tolerance, high resistance to diversions, high sense of responsibility, goal orientation, ability to find substitute satisfactions, and tension-reducing rationalizations.

Erikson (1963, 1968) defined loneliness as mistrusting, doubting, showing little if any initiative, suffering feelings of inferiority, not knowing who one is, being isolated from others, self-absorbing, and knowing despair. He placed much emphasis on the strength of self-identity to avoid the unhappy

experience of loneliness and felt the study of identity was strategic.

Polansky (1971) has convincingly contributed the theory that combines the need for interpersonal contacts, ego strength and inner control, verbal communication by and between individuals, and the importance of having and sharing determinant attitudes. Klein, Holmes, Holzman, Rousey, Wolitsky and Villeponteaux have tried to behaviorally test and measure one of the traits that makes Polansky's theory workable--verbal accessibility. As Villeponteaux (1972) summarized his report, "It does seem logical that if one can get a delinquent to talk about his impulsive feelings he may not have to act on them (p. 35)."

The present study specifically examined within given populations the delinquent and non-delinquent girl's verbal accessibility, which could be a diagnostic tool.

## CHAPTER III

## METHOD

Subjects

Delinquent subjects were from the fourteen and a half to seventeen and a half year old Caucasian girls legally committed to the Willow Lane School in Columbia, South Carolina, a residential care facility for delinquent girls. All subjects had an IQ of 80 or above and were randomly assigned to either an experimental or a control group.

Non-delinquent subjects were from the fourteen and a half to seventeen and a half year old Caucasian girls presently living in the Baptist Children's Homes of North Carolina, in Thomasville, North Carolina, a residential care facility for care of homeless children. All subjects had an IQ of 80 or above and were randomly assigned to either an experimental or a control group.

Controlled variables included age, sex, race, IQ, domicile, and by virtue of their institutionalization it was assumed that lower socioeconomic level was represented in the study.

### Design of the Study

The design of the study was basically a pretest-post-test, 2 x 2 factorial. There were four groups, two from each of two institutions, randomly assigned from a pool of subjects controlled for sex, age, race, socioeconomic level, IQ, and domicile. The dependent variables were the word responses to selected Thematic Apperception Test (TAT) cards by the subjects, speaking time, words per minute spoken, and the latency time between presentation of the stimulus and the initial verbal response. Independent variables were delinquency and non-delinquency, white noise masking (WNM) and no noise (NN).

### Apparatus

A white noise generator manufactured by the Marietta Apparatus Company was used, with attached Grayson-Stadler calibrated earphones. Instructions were given through an Astatic 331 microphone plugged into the generator which was controlled by the experimenter.

A Wallensak tape recorder was used to record the responses of the subjects and a stop watch used in replaying and transcribing the tapes to determine speaking and latency time.



### Procedure

Patterned after the fixed model 2 x 2 factorial design described by Edwards (1972) and the design identified by Campbell and Stanley (1963, pp. 13-24) as Pretest-Posttest Control Group Design, twenty-five Caucasian subjects from the residential facility for adjudicated delinquent girls and thirty-one from the residential facility for the care of homeless children met the IQ criteria of 80 or above and were used in the study. The sample in each institution was randomly assigned to one of two treatment groups. Each subject was individually pretested and posttested.

In each institution the same room was used for all treatments. Equipment was on a desk or table visible at all times, and all subjects wore the earphones throughout the treatment time to control for manner in which the instructions were given.

The order in which the girls were called to the treatment room was randomly determined, as were the TAT cards used with each subject.

The experimenter carried out all treatments to control for experimenter personality variance.

The experimenter explained the equipment and the procedure to each subject and spent a little time establishing

rapport. Each subject was assured of the safety of the equipment and procedure, and each was assured that the experiment would in no way affect her stay in the institution, nor would her name appear on the data. All subjects were informed that they would be identified by a number for purposes of the experiment, and that no report on individual subjects would be given to the institution.

After an explanation of what to expect and what was expected of her, each subject was habituated to the test situation by reading the same reading card. Following this, as the pretest, each subject was given the same standard instructions for use of the TAT cards and presented first a low-ambiguity card (No. 1 or No. 9GF), randomly selected and predetermined. Each subject was asked to tell a story about the card, telling what was happening in the picture, what had led up to it, and how the story would end. Two of four medium-ambiguity cards (Nos. 4, 7GF, 12F, 13MF) followed with the same instructions. All verbal subject responses were recorded.

As soon as the pretest was concluded the posttest followed. The experimental groups were given a period of listening to the white noise and toleration of the sound verified with each subject.

The subjects in all groups again read the habituation reading card, responded to the second low-ambiguity card and the second pair of medium-ambiguity cards followed, with the standard TAT instructions.

Scores were the actual word count of verbal responses, length of speaking time, and the latency time between presentation of the stimulus and the initial verbal response.

A stop watch was used with the tapes to determine the latency time and length of speaking time.

Verbal responses of each subject were typed from the tapes and these nominal data were rated by four judges as impulsive or defensive, I or D, and scaled for analysis. The panel of judges was comprised of one psychiatrist, two clinical psychologists, and a doctoral student in psychology.

## CHAPTER IV

### RESULTS AND CONCLUSIONS

Data for the experiment consisted of the verbal responses to the TAT stimuli, timed and counted, and the verbal responses subjectively rated by four judges. The impulsivity-defensiveness data were scaled with a value of 1 placed on a defensive response, 2 for a response the judges were unable to rate, and 3 for an impulsive rating. Rationale for the value of 2 for a response the judges were unable to rate was that if placed at 0 the scale would automatically be pulled toward defensiveness whereas a 2 classified it as being neither defensive or impulsive.

Interjudge correlation was separately computed by deriving intra-class correlations from a repeated measures analysis of variance (Winer, 1971) of judges and responses (see Table 1 and Table 2). Interjudge correlation was found to be .95 (R) for the delinquent subjects and .93 (R) for the non-delinquent subjects, both significant ( $p < .001$ ).

Analyses of covariance were used to analyze the results of the investigation, the dependent variables being the posttest scores corrected for regression on the pretest scores.

TABLE 1  
Judges' Converted Ratings by Subject

Delinquent Subjects	J1	J2	J3	J4
1	6	7	8	8
2	10	8	9	10
3	8	9	8	7
4	7	4	4	5
5	9	4	4	4
6	6	8	7	7
7	9	6	7	7
8	7	8	6	7
9	10	4	9	10
10	9	7	6	6
11	4	4	4	4
12	10	8	9	10
13	11	10	10	11
14	9	10	10	10
15	8	5	7	8
16	11	11	8	8
17	10	9	8	8
18	8	6	5	7
19	7	10	6	10
20	6	6	4	6
21	8	6	6	6
22	8	6	7	8
23	12	12	12	9
24	7	7	8	9
25	9	7	7	7

TABLE 2  
Judges' Converted Ratings by Subject

Non-Delinquent Subjects	J1	J2	J3	J4
1	6	4	4	4
2	6	5	4	6
3	7	6	4	4
4	10	8	8	10
5	12	12	10	10
6	12	12	8	8
7	8	10	8	6
8	10	9	8	12
9	9	10	6	6
10	7	4	4	4
11	4	9	4	9
12	9	9	8	6
13	7	7	4	5
14	9	8	6	8
15	12	12	12	12
16	11	11	10	7
17	6	7	4	5
18	11	12	12	12
19	11	7	5	6
20	9	5	6	5
21	10	10	10	10
22	6	5	4	5
23	8	4	4	4
24	8	7	4	5
25	7	8	5	5
26	7	6	6	6
27	5	6	4	6
28	7	10	8	8
29	9	6	7	7
30	8	7	6	10
31	9	11	11	11

This procedure adjusted the posttest score for the actual mathematical relation to the pretest score, providing more sophisticated change scores and a truer picture of actual change attributable to the treatment.

In each analysis of covariance hypothesis 1 was tested by the WNM-NN main effect. Hypothesis 2 was tested by the Delinquency--Non-delinquency main effect. Hypothesis 3 was tested by the interaction effects of the two and by subsequent multiple-range tests (Edwards, 1972).

Results by main and interaction effects on each set of posttest scores are presented and discussed separately since hypotheses 1 and 2 were rejected in total form but significant results were obtained in parts of the study.

#### Latency Time

It was hypothesized that latency time would be shorter under white noise masking than under no-noise conditions, for both the delinquent and the non-delinquent subjects. The adjusted mean scores are shown in Table 3, and although the means for the delinquent subjects suggested a difference, analysis of the data (Table 4) failed to support the hypothesis.

TABLE 3  
Adjusted Mean Scores  
Latency Time (in Seconds)

NN		WNM	
Delinquent	Non-delinquent	Delinquent	Non-delinquent
.783	.483	.414	.508

TABLE 4  
Analysis of Covariance of Latency Times

Source of Variation	df	MS	F
Total	55		
Delinquency--Non-delinquency	1	.011	< 1.00
WNM-NN	1	.030	< 1.00
Interaction	1	.039	< 1.00
Error	52	.040	



Words Spoken

Adjusted mean scores for the number of words spoken are shown in Table 5. Analysis of the data (see Table 6) indicated the non-delinquents spoke a significantly greater number of words than the delinquent subjects ( $p < .005$ ), but, as with latency time, the noise variable showed no significant effect.

TABLE 5  
Adjusted Mean Scores  
Words Spoken

NN		WNM	
Delinquent	Non-delinquent	Delinquent	Non-delinquent
.474	1.212	.488	1.049

TABLE 6  
Analysis of Covariance of Words Spoken

Source of Variation	df	MS	F
Total	55		
Delinquency--Non- delinquency	1	.422	8.83*
WNM-NN	1	.006	< 1.00
Interaction	1	.008	< 1.00
Error	52	.048	

\*  $p < .005$

#### Speaking Time

Adjusted mean scores for speaking time reflected a difference in direction (see Table 7). Computation of an analysis of covariance (see Table 8) revealed a significant interaction effect between delinquency and WNM. To determine the source of interaction, Duncan's multiple-range tests were performed, and it was found that the delinquent subjects' speaking time was significantly reduced by the WNM. The non-delinquent subjects' speaking time increased but not to significant levels. Not only was the hypothesis rejected that speaking time would increase, but the results indicated significance in the opposite direction.

TABLE 7  
Adjusted Mean Scores  
Speaking Time (in Seconds)

NN		WNM	
Delinquent	Non-delinquent	Delinquent	Non-delinquent
2.052	1.614	1.566	1.965

TABLE 8  
Analysis of Covariance of Speaking Time

Source of Variation	df	MS	F
Total	55		
Delinquency--Non-delinquency	1	.0004	< 1.00
WNM-NN	1	.005	< 1.00
Interaction	1	.175	4.18*
Error	52	.042	

\*  $p < .05$

### Words per Minute

Speaking time was converted to fractions of minutes and divided by the words spoken to obtain the words spoken per minute. For both delinquent and non-delinquent subjects the change in speaking time was inversely related to the number of words spoken (see Tables 5 and 7). Adjusted mean scores increased under WNM for the delinquent subjects. Under the same treatment conditions the non-delinquent subjects' words per minute decreased (see Table 9).

After obtaining the change scores for rate of speech of each subject, an analysis of covariance of the words spoken per minute was calculated. As indicated in Table 10, the results were significant ( $p < .01$ ) for the main effect of delinquency as opposed to non-delinquency and multiple-range testing yielded a significant interaction effect ( $p < .05$ ) between delinquency and WNM. The delinquent subjects talked faster, taking a shorter length of time to say the same number of words under WNM than under NN. On the contrary, the non-delinquents took a longer time to say the same number of words under WNM than under NN.

TABLE 9  
Adjusted Mean Scores  
Words per Minute

NN		WNM	
Delinquent	Non-delinquent	Delinquent	Non-delinquent
9.674	58.885	38.013	43.689

TABLE 10  
Analysis of Covariance of Words per Minute

Source of Variation	df	MS	F
Total	55		
Delinquency--Non-delinquency	1	753.146	7.34**
WNM-NN	1	43.185	< 1.00
Interaction	1	473.824	4.62*
Error	52	102.545	

\*\* p < .01

\* p < .05

Impulsivity-Defensiveness Ratings

The judges' converted mean scores indicated only slight differences among subjects (see Table 11). Analysis of the data (see Table 12) failed to support the hypothesis that delinquent and non-delinquent subjects would be more impulsive under WNM, and that the ratings would be more impulsive for the non-delinquent girls than for the delinquent girls. Neither change scores nor initial pretest scores supported this hypothesis.

TABLE 11

Adjusted Mean Scores  
Impulsivity-Defensiveness Ratings

NN		WNM	
Delinquent	Non-delinquent	Delinquent	Non-delinquent
9.494	9.235	9.747	9.081

TABLE 12  
 Analysis of Covariance of  
 Impulsivity-Defensiveness Ratings

Source of Variation	df	MS	F
Total	55		
Delinquency--Non- delinquency	1	1.806	1.06
WNM-NN	1	.054	< 1.00
Interaction	1	.002	< 1.00
Error	52	1.708	

In the above analysis a value of 2 was placed on a response the judge could not rate as impulsive or defensive. A duplicate analysis was run on the I-D ratings with the value of 1 placed on the responses of "I don't know" on the premise that such a response represented a highly defensive action on the part of the subject. The response of "I don't know" occurred 41 times, or 4.6% of the total responses scored by the four judges, and occurred only among the delinquent subjects. One judge clarified his scoring of these responses as defensive rather than no rating on the basis that to him they represented denial and avoiding, a highly defensive move. No significant differences were found in the effect of delinquency, WNM, or the interaction of the two on either set of data.

## CHAPTER V

### DISCUSSION

The results of the study supported the literature; the delinquent subjects were more nonverbal than the non-delinquent subjects initially. This was also true under auditory occlusion. Supported, in contrast to the Villeponteaux (1972) study, was the fact that disinhibition did occur in the delinquent girls' responses under auditory occlusion, although not in the form of increased verbalization or impulsivity of content. The manner in which disinhibition occurred was the most interesting part of the study. The reaction to noise was more action-oriented (talking faster) than a change in verbal content toward impulsiveness.

The fact that Villeponteaux (1972) did not find any difference in words per minute spoken under WNM and words per minute under NN could indicate that in the sample tested the boys were disinhibited initially. Results of the present study would indicate that the sample of delinquent girls were defensive initially and their response took a disinhibitory form by talking faster under WNM. Neither would appear to be comparable to Holzman and Rousey's (1971) adult, middle-



aged male and female subjects who tended to verbalize feelings and increase impulsivity (impulsive content of responses) under WNM, as well as increase the number of syllables spoken in a given time. The results of the present experiment would tend to support the literature that the girl delinquent has difficulty verbalizing her feelings. The present study could also indicate that impulsivity or disinhibition could be of two kinds, impulsive verbal content, or talking faster.

The dynamics operating in Holzman and Rousey's (1971) subjects and in delinquents with limited vocabulary might very well be the same with impulsivity expressed differently. The adults may become less inhibited in verbal response content and the delinquent girl may speed up the little she has to say. Redl (1966) equated action proneness with verbal symbolization atrophy. The delinquent subjects may not have the command of enough words to respond verbally in a testing situation, but may instead speed up, an action-prone response to the noise in the present study.

Conclusions are limited since all subjects in this study were institutionalized, but Appelberg (1964) compared verbal accessibility scales of institutionalized and home-based adolescents. She found no difference in the girls of

her population, but did find that the adolescent boys in residential care were less verbally accessible. Broader studies are needed but there seems to be an emerging theme that the gratification of needs for boys and girls in our culture differs and sex does and can influence the verbal accessibility of the adolescents. The need for approval might be present in both sexes but the boy may act out his need to gain peer approval while the girl withdraws in defense for protection and security, or approval. Both would be virtually verbally inaccessible.

An unhypothesized and unmeasured result of the study could supply a clue to the verbal inaccessibility of the delinquent subjects. In habituating the subjects to the testing situation, they were asked to read a statement of a paragraph randomly selected from a book of readings for 5th grade level students. The inability to read was evident in the delinquent subjects. One subject met the request to read the card with a flat statement that she was a non-reader. The command of words would be necessary prior to verbal exchange. Culturally, the subjects may be unmotivated to make use of speech. Socioeconomic factors may play a very important part in the verbal accessibility of the delinquent subjects.

### Suggestions for Future Research

If delinquents lack a command of words, and the need exists for an expression of feeling in other ways than aggression or acting out, studies could be made using figures or dolls to manipulate as a response to TAT stimuli, with raters observing to score the actions as impulsive or defensive, using the same criteria for judging.

Actual comparison of number of word responses between the delinquent adolescent boys of Villepontaux's (1972) study and the delinquent adolescent girls of this study could be made now to compare institutionalized delinquent boys and girls. Early and late physical maturation of the subjects could be considered. If the boys were found to be late maturers and the girls early maturers, further thought could be given to the drive for power in the boys and the seeking of approval from peers, as opposed to the defensive but impulse-laden adolescent girls, too immature emotionally to handle their sexually mature drives.

Actual reading abilities could be tested and compared between larger delinquent and non-delinquent populations. Tests for vocabulary command could likewise be used in studying the two groups. By coupling the results, treatment could

be aimed at educational therapy to literally provide the delinquent with the tool of speech with which to communicate his feelings to those in his world.

On the basis of the time-orientation of the adolescent age, a further examination of the content of the responses could be aimed at the "future" element as expressed by the subjects. Ex post facto examination would reveal the presence or absence of a future to the responses made, although all subjects were given similar instructions to tell a story, giving a past, present and future, or ending, to their story. It would be interesting and helpful to know if the delinquent subjects show less "future" orientation, indicating the now-orientation and immediacy of the need for action, and a hopelessness that could drastically affect psychological practice in trying to explore treatment approaches and ways and means of reaching the juvenile delinquent.

## CHAPTER VI

### SUMMARY

The purpose of this study was to explore the verbal accessibility of institutionalized delinquent and non-delinquent adolescent girls to TAT stimuli under auditory occlusion. The study was designed as a companion study to one conducted by Lorenz Villeponteaux (1972) in which he tested verbal responses of delinquent adolescent boys.

The problem centered around determining if the two samples differed in their verbal responses under auditory occlusion.

Basic assumptions of the study were that both groups of girls would respond similarly to auditory occlusion but the delinquent girls would be less verbal initially, and the effects of auditory occlusion would be greater on the non-delinquents' verbal responses, the latency time, and the impulsivity rating of the verbal responses.

Twenty-five Caucasian subjects from a residential facility for adjudicated delinquent girls and thirty-one from a residential facility for the care of homeless

children met the IQ criteria of 80 or above and were used in the study. The sample in each institution was randomly assigned to one of two treatment groups. Each subject was individually pretested and posttested.

Scores were the actual word count of verbal responses, length of speaking time, words spoken per minute, and the latency time between presentation of the stimulus and the initial verbal response.

Verbal responses of the subjects were recorded and these nominal data were rated by four judges as impulsive or defensive, I or D, and scaled for analysis.

Analyses indicated that neither noise nor delinquency had any significant effect on latency time. White noise masking showed no significant effect on change in number of words spoken, but the non-delinquent spoke significantly more words than the delinquent during pretest and posttest under both conditions of the study, in experimental and control groups.

Significant interaction effect on the length of speaking time between delinquency and white noise masking was found. Under white noise masking the delinquent took a shorter time than with no noise to say the same number

of words. On the contrary, the non-delinquent took a longer time to say the same number of words under white noise masking as compared to no noise.

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## Appendix A

## Subject Responses to TAT Cards

Subject 001

Card 13. Well, it looks like he, you know, walked in and found his wife dead, and, you know, he is in pain and sorrow and crying. Then he gets, you know, over her death and goes on about life like he always did.

Card 12. Just looks like a old lady and a young woman. You know, it looks like her conscience is hurting, her evil conscience. She soon gets rid of her. She gets rid of her evil conscience.

Card 4. This looks like she is begging him to come back to her and he is gonna leave her, but he don't come back. He goes away forever.

Card 7. A mother is telling her daughter about the facts of life. And she's, you know, telling her all the stories, you know, and her daughter understands; and I guess that is the end.

Subject 002

Card 13. A man goes in because his wife is dead, and, uh, so they have the funeral and everything. And he will

probably remarry for his children, if he has any.

Card 12. A woman was sitting haunting her, but, I mean, she'll probably get it out of her, you know. It is probably her conscience haunting her, but she'll get it out of her by, I mean, you know, she gets God's forgiveness and everything.

Card 4. A man and woman in love and he has to leave, but he'll come back to her if he really loves her.

Card 7. A lady who is trying to teach something to the little girl, but she doesn't want to listen. She would rather talk to the baby doll, but they'll make her listen then.

#### Subject 003

Card 7. Looks like the woman is reading to the girl and she don't want to listen. I don't know.

Card 4. She looks like she is trying to keep him from going somewhere. He will probably go.

Card 12. I don't know about that.

Card 13. I don't know. I don't know. I don't know.

#### Subject 004

Card 7. A young--a young girl that wants to be a mother and her mother is trying to tell her about life and

about the facts of life and how it will be when she gets older and then when she gets older she has a child of her own and she has a happy family.

Card 4. That looks like lovers and they're having a argument, or something, but everything turns out all right in the end.

Card 12. It looks like a young girl who has been haunted all her life by her mother and she wants to get away and sooner or later she does get away and she leads her own life, but right now it seems like her mother is haunting her life.

Card 13. Looks like a young man that's done something shameful and he is sorry he did it now and he has turned away. And it looks like the girl might be dead but I don't know. I can't tell. But he's sorry and--but in the end he turns to God and gets forgiven. And maybe the girl is all right.

#### Subject 005

Card 13. This lady she is in the hotel and she is very sick. And he is discouraged. And in the end she will die.

Card 7. This is a picture of a mother and her daughter and the daughter's baby, and she is reading to her about

the Bible. She will grow up to be a Christian.

Card 4. This is a picture of a man and a woman. The woman is in love with the man but the man isn't in love with her, so he has turned to go another way and left her all alone.

Card 12. This is a picture of a very beautiful young lady who has, which a witch has found, and she wants to put a spell on her, and in the end she finds the witch is her own mother.

#### Subject 006

Card 13. Looks like they had a fight or something and he slapped her, or she passed out, or something. And he's kinda hurt about it, and he's crying because he didn't mean what he wanted to do. And he probably thinks she's dead. But she probably comes to and forgives him.

Card 7. Seems like it is about time for her bed, and her mother is reading her a bedtime story, and she doesn't particularly want to go to bed so she's not listening to her mother. Instead she's looking away wanting to play with the doll, but later on she probably felt tired and sleepy and listened to the story so she could go to bed.

Card 4. Well, they were probably just married or something and whenever he got home from work he was tired



and he started griping at his wife, and here he is ready to walk away, but later they will talk it over and understand each other and get back together.

Card 12. She's probably real close to her mother, say for instance if the woman in the back is her mother and that she's telling her something to do which may be wrong and she's kinda looking away from her, trying to decide whether it is right or wrong. And, uh, after she thought it over she probably told her mother that it is wrong and she didn't do it.

Subject 007.

Card 7. What's that in the little girl's hand? The little girl went to her mother to show her the little baby doll. It was broken and her mother was trying to cheer her up, and her mother will buy her a new doll later on.

Card 13. The man he has just finished doing some work on his books and he is yawning and he's about to go to bed. Him and his wife will be in the bed and then will go to sleep.

Card 12. Someone has drawn a picture of two figures, and one lady is just looking real stern and one very happy, and in the end the young man will like the old woman.

Card 4. The man and woman has just had a fight and the lady is talking to him. Finally they will make up at the end.

Subject 008

Card 7. I don't really know. It's a mother reading a book to the little girl. She is--I think the mother is trying to explain something to the little girl and she doesn't want to listen. She's kinda ignoring her mother and maybe her mother is talking to her, you know, to change things and make them for the better, but the little girl doesn't want it that way. She wants it to be like she wants it.

Card 13. Uh, I don't know. I mean, I can imagine what it is, but I don't know. You know what I mean? Maybe the man went out on his wife, you know, and found somebody to, you know, maybe go to bed with him, you know. Maybe he had a problem with his wife, or a fight or something and now he is realizing how wrong he was.

Card 12. I don't know. It looks like the old lady is gossiping, I guess. Looks like maybe they're talking about somebody or some group of people because her eyes are looking that way and hers are looking this way. Looks like maybe they're standing off in a corner talking about the people or something. That's what I think.

Card 4. It looks like he wants to--It looks like he has found out she has been with another man and he is going

to beat him up, or something and she's trying to hold him back, or something, like that, and I think that maybe from the look on her face she will talk him out of it.

Subject 009

Card 12. She is fixing to go out on a date, and she is the only one taking care of the grandmother and she doesn't want to go and leave her, but she wants to go out on the date. And she won't go.

Card 4. He is jockey, and he's getting ready to leave her because she don't like the way he is doing, and she is begging him not to go. And he will go, but he'll come back. Jockeys always do.

Card 7. Uh, her mother is telling her a story, maybe about life or something. She's not listening because she thinks it is a bunch of mess, but in the end she finds out it is true.

Card 13. Uh, he came in and his wife had a heart attack, or she died, so he's sad, I don't know, because he loved her.

Subject 010

Card 12. Ah, she must be having, ah, kinda like a nightmare, and she is dreaming what she will look like when

she gets old; or either this lady is haunting her because she did something wrong to her, or something like that. She will get killed.

Card 4. She's in love with him, but he don't like her because he likes another woman. And so she tries--so, since he don't like her, she's gonna go commit suicide, and he's going to his uncle's.

Card 7. Ah, she got pregnant by this boy, and so she had her baby, and her mother got angry with her and so she left home and the boy didn't marry her so she killed herself, and put the baby in a orphanage.

Card 13. Ah, this is a girl that he loved a lot and someone came in because they were jealous over him and killed her, and now he is going to commit suicide to be with her in heaven.

### Subject 011

Card 7. A little girl and her baby doll is playing and they got into some trouble, and her mother is reading her a story of something like she had done, and it all turns out very well.

Card 4. A woman and a man in love and they are going to get married very soon. They are going to get married, and live happily ever after.

Card 12. That boy right there drew that picture, and it turned out to be a ugly old witch. That's all.

Card 13. Uh, they were once married and now the marriage is ended and he is up crying. They get a divorce.

Subject 012

Card 7. Uh, looks like a girl and I think a nursemaid or something was reading to her, and she wasn't listening. She was dreaming of her own stories and, uh, let's see, and I don't think the nurse will get her attention. I think that she will go on dreaming until someone does something about it. Uh, she may not. She may get bored.

Card 4. That looks like a man and a woman and they have just quarreled, and, uh, he's leaving to go somewhere and she's trying to stop him. And I think he will leave too.

Card 12. Well, to me it looks like someone's grandmother. Yet, it could be that she was thinking of someone and her conscience may be bothering her, or maybe she has done something and then if that is her conscience it will tell her what she did.

Card 13. Uh, I think the man has come home and his wife looks dead and, uh, I think maybe he caught her with somebody or something and she killed herself because she

didn't want to face the truth and, ah, I don't think he will be bitter the rest of his life. I think he will learn to love another woman.

### Subject 013

Card 13. Uh, the woman's husband walked into the room and found her lying on the bed without any clothes on, dead. He was a very sad man.

Card 12. I don't know what to say about that one.

Card 7. I don't know.

Card 4. I don't know what to say about that one either.

### Subject 014

Card 13. Well, he looks like he's crying or something happened to I guess it is his wife, or his girlfriend. He must have come home and she must be dead or unconscious, and he probably called the police and he will tell them what happened.

Card 12. Uh, she looks, the young lady looks like she is looking at something and she is deciding what to do about it. And the one in the back looks sorta sneaky. She looks like a witch or something, and, uh, maybe she's got a spell on the first lady to doing something. Uh, I don't know. The

first lady don't know what to do because I think the last lady has got the spell on her. She looks like a witch. Somebody will save her. I don't know.

Card 7. The lady must be either her mother or a teacher, and the young lady looks like she's not really wanting to learn because it looks like the lady is reading to her, and she looks like she would much rather play with her baby doll than to learn. And the teacher looks like--I mean, the girl looks like she don't want to, so I don't believe she will.

Card 4. It's probably two lovers, and they got in a fight, and he has turned away. And she is probably calling his attention and telling him she's sorry, or something, and he's just not listening, and they probably will get back together.

#### Subject 015

Card 12. Uh, now it is a young woman and later on in a few minutes she will get old. This is when she will get old later on.

Card 13. He has just killed her and now he is crying. Later on it will run him crazy.

Card 7. That is the mother reading to the girl about things and she is holding her doll, and later on she will do

the same for her daughter.

Card 4. Oh lawdy, she is telling him that she loves him and he is ignoring her, and he acts like he don't love her, but later on he will.

Subject 016

Card 12. Ah, the young lady is about to make up a plan or a decision for the future and the older lady, possibly her mother, is giving her opinion of it, whatever it is. And it looks like the lady will make her own decision.

Card 13. This is, uh, a home where the husband and wife, the husband, or the wife, isn't, or doesn't help the husband very much by getting up and, uh, getting his breakfast, and so he has to get up and do all the work while she stays in bed, and this may lead to a problem of family life.

Card 7. Ah, this is, it looks like a mother and a child, discussing something and the mother is trying to get something through to the daughter but the daughter will not listen, and she has her own thoughts in her own mind and she will, I don't know, she doesn't seem like she will be a very cooperative young lady in the future.

Card 4. Ah, this looks like a couple that the man doesn't care very much about the woman and she doesn't want



to lose him, and, ah, so she's trying, you know, help get him back in some way or encourage him. But it looks like he doesn't want this, and he'll, you know, he will go his own way and not go back to her.

Subject 017

Card 4. He's acting as though he don't want to talk with her. I don't know.

Card 7. Is that a book in her hand? I don't know.

Card 13. He looks like he is scared about something. Is she dead or asleep? From the way he is acting, I think she is dead. I don't know.

Card 12. I don't know.

Subject 018

Card 4. Ah, it looks like she said something that made him mad and they'll probably, I don't know, they'll probably get married, or something like that. Ah, I don't know. Probably make up.

Card 7. Ah, looks like that lady is telling this girl a story and she ain't interested in it. She wants to play with the baby doll. What else? She'll finally go to bed.

Card 13. Looks like that girl is dead. And it must be his wife or something. Probably he will bury her and if

he's got children he will probably marry again.

Card 12. It looks like a spirit or something, probably her conscience, or something like that. She probably told a lie or something. Uh, she'll probably say she's sorry for what she did, or something.

Subject 019

Card 4. Well, what happened, this young lady fell in love with this man and she's very in love with him and what's happening now is they had a quarrel and he is getting ready to leave her and probably in the future they will probably make up and go back together.

Card 7. Well, in the past this young girl probably, to me it looked like she might have been pregnant in the past, and the future shows her with the baby and her mother and her mother is trying to tell her things about the baby and the future to come, how things would happen.

Card 12. In the past it looks like that the old lady probably was the girl's mother and now it looks like the girl may have gotten into some kind of problems and the mother is trying to explain it to her and she doesn't want to listen. The future is probably that she'll be separated from her mother.

Card 13. In the past it looks like this man was very in love with this girl and now it looks like either she is sick or dying and he feels very bad about it. In the future probably, he will still have memories of her but he will probably get over her.

Subject 020

Card 4. Ah, somebody has made that man mad and I guess it's his wife. She's trying to calm him down before he leaves the house. And I guess she will get him calmed down.

Card 7. Uh, that woman is trying to read to that little girl, but that little girl doesn't want to listen, and, so she's got her mind on baby dolls and finally she will listen.

Card 12. A lady's conscience, or she is thinking about her mother, and, ah, that lady looks evil and I guess she is trying to tell her to do something wrong, and that lady is not listening to her. And she won't listen to her.

Card 13. Uh, that man and his wife must have had a fuss or either he left his wife and he went out after that girl, and now he is regretting it. And he'll go back to his wife.

Subject 021

Card 13. Looks like they got into a fight. Let's see now, in the end they will probably go back together and be happy.

Card 7. Looks like the mama is trying to tell her something, and at the end she will probably get the message or something.

Card 4. Looks like he is mad or drunk or something and she is trying to calm him down. Well, she will probably talk him into being calm.

Card 12. Ah, looks like she's reminding him of something. I don't know. Looks like she has been talking to him about something and he is just thinking about what she is saying. Well, they will probably just do what she says.

Subject 022

Card 13. The man's wife was very bad sick and the doctor said she didn't have much longer to live. And so it was one night that she died. He never remarried again because he always thought of his wife and he lived in the same old house.

Card 7. The mother is reading her little girl a story because she hasn't got brothers or sisters or anything and so

she gets lonesome sometime and the mother is always reading her stories from the Bible.

Card 4. The man he must be wanting to go some place or something and his wife or girlfriend don't want him to go and then she's trying to hold him back. And I think he changes his mind and stays with her.

Card 12. The daughter is remembering her grandmother from when she was a little girl, and she keeps remembering her because she always loved her grandmother. And, uh, so she remembers her picture and tells her mother she will never forget the picture of her grandmother.

#### Subject 023

Card 7. The mother is trying to get through to her daughter, but her daughter doesn't want to listen. I don't think she will listen.

Card 13. I don't know.

Card 12. I don't know.

Card 4. She's trying to stop him from doing something and he wants to go ahead and do it. I don't know how it will end.

#### Subject 024

Card 7. The mother is reading to her and she is not

listening. She's got her mind somewhere else. The story ends like she'll be cooperative with her and she'll be all right.

Card 13. Looks kinda like she might have died and he is crying or either he misbehaved or both, or he killed her or something. The story end is he'll probably get put in jail.

Card 12. Kinda reminds me of a split personality in a way. That lady in the back is making fun of her because she is prettier than she is. At the end maybe one of them will get killed on account of it.

Card 4. They are having some kind of romance and at the end they will get together and get married.

#### Subject 025

Card 12. I don't know.

Card 4. Looks like they are fussing. And it looks like it's going to end pretty sad.

Card 7. The mother is fussing at the daughter, and sad. The mother is reading to the daughter and she's not listening to her. It's gonna end sad.

Card 13. Looks like they just got through arguing, and it's gonna end sad.

Subject 026

Card 12. Ah, it's a picture of a man and a old lady, I guess, and it's showing I guess it is the contrast between the two, showing the difference between a young man and a old person. I guess that's how that man will look when he gets that age.

Card 4. Well, it's a man and a woman, and they've like --well, maybe they've been in a fuss or something and she's trying to talk with him and he won't talk to her. Uh, I guess he'll talk to her.

Card 7. It's a picture of a mother and a little girl and the little girl is holding her baby or baby doll. I don't know, I guess her mother is trying to tell her how she should take care of it. Ah, I guess the little girl will take the baby and do what her mother says.

Card 13. It is a picture of a man and a woman and the woman is sick or she's dead and the man is weeping because she is either dead or sick. And I guess if she's dead there is nothing he can do about it, but if she's sick, I guess he can call the doctor.

Subject 027

Card 4. It looks like, uh, she's trying to, he's

persuading her, you know. Looks like he's mad at her and she's trying to change his mind and trying to get back, you know. And, uh, and, uh, I think she's, you know, in love with him and got back with him.

Card 12. Wow! Uh, looks like, uh, you know, that she changed from one person to another. Looks like she's changing, and, uh, I don't know about that one. It looks like, you know, that she changed from one person to another, like a witch, or something, you know, and she couldn't change back and everything.

Card 7. Uh, what happened, looks like the little girl, a little girl, is jealous of the baby. Looks like a baby, you know, and it looks like she's jealous of it, or something. And what's happening, it looks like her mother is trying to, you know, calm her down, change her mind about it. And what happened, it looks like the little girl won't listen to her at all, and the mother is liable to get a switch to her. How will it end? Uh, the little girl kept sitting and wouldn't say anything.

Card 13. What happened, it looks like, uh, he, uh, like the woman killed herself or something. She's lying there, you know, and what's happening, looks like the man walked in and found her. And how it ended, you know, it looks like he's



gonna kill himself.

Subject 028

Card 4. She's in love with that man and the man is not in love with her and he wants to leave, and she's holding him back. He'll come back to her.

Card 12. It is a picture of a mother or a resemblance of her, and she thinks her mother is dead, but she really isn't. Uh, she'll find her mother some day, I guess.

Card 7. Uh, a mother is talking to her little girl about the doll, and I think the mother wants the girl to give the doll away but the girl doesn't want to, and she keeps it.

Card 13. The woman, you know, she let the man in and the man raped her, you know, and he killed her, you know. He's sad he did it. He didn't mean to do it. He'll run away.

Subject 029

Card 13. It looks like--it looks like--I don't know. It looks like he is fixing to go to bed or just got up, or something. I don't know.

Card 7. Looks like she's had a baby. Is that a little baby that she's just had, and they are looking at it?

Card 4. It looks like she is trying to talk to him. That's all I know.

Card 12. I don't know what that is. Looks like a picture to me. Like a picture. That's all I know.

Subject 030

Card 13. Uh, they're drunk, the both of them, woman and man. They're drunk. And, well, they're too drunk to know what they're doing but they're not quite stoned yet. But their minds are blank and they go to his apartment. He's a college student and he's supposed to be studying, but he doesn't worry about that right now because he's got a woman and he's gonna have, he can do what he wants and she's drunk enough not to know not to let him. And now that it is all over, he realizes that he was drunk and he's sorry, but it is too late, and so he's sad and he may be sick.

Card 7. It is a little girl. She's holding a doll. She's sad. Her mind is turned away. There's a woman sitting beside her. She's reading a book. Probably one of her favorite books, one of the little girl's favorite books. And, well, I guess her mother passed away yesterday because she no longer wants to listen to the book. She's not interested in her doll any more. She's just looking at the wall, very sad. That little girl tells the maid that she doesn't want to hear the book and she doesn't want to play with the doll.

Card 4. Okay, this is a man and a woman and they were hugging one another. Well, I take that back. She's holding him. He's looking away. He doesn't want to look at her because he knows that she's in love with him and he's gotta go, because he just doesn't want to be held down by her and he doesn't want a woman. He doesn't want her to be in love with him. And so, he's gonna leave. He's just gonna walk right on out the door and say to heck with her because he doesn't love her, and he's gonna break her heart, and he knows it, but he doesn't have any heart and he doesn't really care. And she's going to end up crying and he's gonna laugh.

Card 12. Well, this is a sort of middle-aged woman and I guess that's her old grandmother standing there behind her. And really it looks as though grandmother had just gotten the little girl to do something that really the girl wanted to do, but it is something this girl is going to regret doing. Maybe she talked her into killing someone. Maybe it is to hurt a man's feelings. I don't really know. But whatever it is, the girl is glad she did it, but sooner or later she will regret it. She'll really hate herself for it, and grandmother is just gonna laugh and laugh and laugh.

Subject 031

Card 13. And this one--he looks like he just come in

from work and so his wife is laying there dead on the bed. And now the results is to try to get to the phone and call the undertaker.

Card 7. And this one looks like it is a child that has had a baby that hasn't been married, and she has found out her mother cares and wants her to keep the baby.

Card 4. And this man looks like he wants to leave this woman and this woman is begging him not to go. Then he looks like he's going to leave her anyway.

Card 12. That looks like a witch. Looks like a witch talking to a woman, trying to put some wicked things in her head. Looks like she'll succeed too.

### Subject 032

Card 13. Uh, the couple had a argument. They were having a affair and got into a argument and he left and she came home, and he found her dead. And he's crying because of it. He'll go back to his mother.

Card 7. It's right before bedtime and the little girl isn't sleepy and so her mother is reading her a story, but the little girl has other things on her mind. She isn't paying any attention, and she gets frustrated and goes on to bed.

Card 4. This guy is from overseas and he and this

girl fall in love and he has to leave the next morning to go back to the ship. And it's hard for him to leave her, and she's wanting him to stay with her longer. And he don't want to. And so, he leaves and the next morning he leaves and goes on the ship.

Card 12. I can't think of anything. Maybe this old lady here is thinking back on her younger days when she was younger, remembering the past.

Subject 033

Card 4. This is a man and his wife and they had a fuss, and she's trying to make up to him and he won't listen to her, and he leaves.

Card 7. The mother is trying to tell her about being a lady and she's playing with dolls, and she leaves dolls alone and becomes a lady.

Card 13. Uh, looks like a man and he has hurt a woman, or killed her, and he's ashamed of himself now and wished he had never done it, and he's sorry for the rest of his life.

Card 12. Is that a woman's picture behind her, or a woman? Looks like her picture, or maybe it is, uh, the woman's mother behind her and she's thinking about her. She keeps her mother's picture and she tries to keep it off her

mind and won't worry.

Subject 034

Card 7. Something must have happened to her and whoever that is is trying to talk to her and the little girl will end up happy.

Card 4. They've been fighting, and he's gonna leave her, but she'll win. He'll come back.

Card 13. I don't know. Well, well, you want a story about that. Um--he's late coming home from work. He has come home and now he's going to bed. I ain't gonna say no more on that one.

Card 12. A story about that. Oh. Make up a story about that. That guy is going to do something bad to that guy because he's got a evil twinkle in his eye. And that guy is gonna turn out a good guy and turn him into the cops.

Subject 035

Card 13. A man and a woman. The man is crying. He's sad. He's just crying.

Card 7. A mother and daughter and the baby, and the mother is speaking to the child and the child turned her head, holding the baby down on her arms.

Card 12. A man and a woman thinking. She's looking

at the, at something. The man is thinking with his hand on his mouth. Happy?

Card 4. A man and a woman in love become two happy people. Happy.

Subject 036

Card 13. That says, ah, he must have killed her, and, uh, he realizes what he is doing, what he has done, and, uh, he'll probably run.

Card 7. Uh, her mother is talking to her about, is that a real baby, or is it a baby? Anyway, she's talking to her about, concerning the baby doll, and so forth, and, uh, and she looks like she really doesn't care what she's saying to her. Uh, she'll probably go on talking to her and she'll quit.

Card 12. This old lady looks like she has done something to this young one. Uh, for, you know, on purpose, or something, and it looks like now, you know, that she got away with it, and she looks like she's sneaky or something, you know, bad or something and this lady couldn't, you know, make her do or something like that.

Card 4. They look like they might have gotten into an argument, and, uh, and now he looks like he's mad and she's

trying, you know, he looks like he's trying to leave but she won't let him. And, uh, and he'll probably leave.

Subject 037

Card 12. Looks like a old biddy talking about somebody or telling her a secret or something. She looks as if she is looking at somebody else that that lady is talking about. Maybe the old lady will get mad and walk away.

Card 4. Looks like she's trying to beg him to stay with her, and he wants to leave. They get in a fight or something, a love story or something. Maybe he will come back to her.

Card 13. Looks as if he just woke up, or she's dead or something. And he's crying or trying to wake up one. If she's dead maybe he'll go call a doctor.

Card 7. Looks like that mother just had a little baby and that little girl wants it and pretend it's hers or something. Or maybe they're trying to talk about something. She did something wrong and learn not to do it again. She'll probably start crying.

Subject 038

Card 12. Uh, that looks like a lady who, uh, has always got something on her mind and she has always got somebody



behind her telling her what to do. Finally, she learns to listen to her own self instead of listening to what others tell her to do.

Card 4. Um, that looks like a lady and her husband. And it looks like they just had a fight and he looks like he's getting ready to leave and go somewhere else. And maybe he comes back. I don't know.

Card 13. It reminds me of a man and his wife that, uh, maybe she's sick or something, and she has died and he's real sad about it and everything, and, uh, maybe he goes and finds himself another wife at the end of it.

Card 7. It reminds me of a little girl and her mother. Her mother is telling her a story about when she was growing up or something and the little girl is sitting there staring about what her future is going to be about and everything. And she's holding the baby and when she grows up, you know, she will remember the things her mother told her about when she was growing up.

Subject 039

Card 12. Uh, that's a picture of an old lady and a young lady and the old lady is thinking how nice the young lady was to her because the young lady helped her when she

was in an old folks home. The old lady finds some people that need her to take care of their little children and she goes to live with them.

Card 13. Well, uh, it's a picture of a man and a lady, and it looks like they were gonna go to bed together and something happened. He was not, I don't know, he was frigid or something like that I guess. He was ashamed of himself and so I guess he just takes his things and goes home. I don't know.

Card 7. This is a picture of a little girl and her mama had to buy her a baby doll, and, uh, the little girl had some problems and so she wanted to talk with her mama about it and so her mama sat down and had talked to her about it, and the little girl felt better.

Card 4. Uh, it's a picture of a lady and a man and the lady, the man said he was going to leave the lady because he doesn't love her any more and the lady doesn't want him to go and, uh, so the man he decides that he really does love the lady so he stays with her.

Subject 040

Card 12. It kinda looks like maybe he feels like he isn't good enough or something because that old lady behind

him is trying to get him down or something, discourage him from thinking it's her. I guess maybe somebody will tell him what she's doing or else he will just stay that way. I don't know.

Card 13. Well, it looks like maybe he went in there, or something. It looks like she might be dead, or something. And maybe he tells the police about it, or something. Right there it looks like it's bothering him a lot. And they probably will find out who it is.

Card 7. It looks like a girl and she's trying to pretend she's being a mother or something and her mother is trying to help her and encourage her and everything so that when she grows up more she will be able to take care of her kids.

Card 4. Um, it looks like they got into a fight or something and she's trying to tell him to come back, not to get mad and everything, so that they can work things out. He'll probably by the look on his face go back to her. He probably isn't mad, just kinda aggravated.

#### Subject 041

Card 7. Seems like that girl's mother is telling her a story and that in a way that girl doesn't want to hear it, and then later on the girl is going to, I mean the mother is

going to, tell the girl a story and she's gonna listen to it.

Card 12. Seems like a witch is gonna put a bad spell on that lady and she's trying to think it over what to put on her, but finally she'll put a bad one, a bad spell on that lady.

Card 4. Just seems like just seems like a long time ago that lady right there has been wanting to go with that boy, but he never could understand her and now she's trying to talk to him, but he won't listen. Later on he will listen and think it over.

Card 13. Just seems like that boy a long time ago believed that he was gonna finally marry that lady and then when he, and now that lady has died, and he was crying, and later on he will find someone else to marry.

Subject 042

Card 7. Uh, she's been hurt and fell and she don't want to listen. I think she will understand later.

Card 12. Is that two pictures or the same person? Is that the same person? It looks like she's thinking of somebody and she's got something evil in mind and she's gonna do something. She'll do something bad.

Card 4. Well, he, he fell in love with her or something and she, yeh, and she's throwing herself at him now.

And he don't want to have nothing to do with her after he wanted her, and well, it looks like they will get a divorce.

Card 13. Uh, he's done something bad to her. He, uh, was going to use her and after he done used her, he don't have nothing to do with her. It's a shame.

Subject 043

Card 4. Is she trying to hold him back or something? I don't know. I guess they're in love and in the end maybe they'll get married. I don't know.

Card 7. Is that a baby she's got or a baby doll? Looks like a baby. Oh, I guess her mother is reading a book to her or something. And telling her about it and then when she grows up she won't be--I don't know. Or maybe her mama is just reading her a book or something, or maybe that's her baby. Maybe she'll get married. How am I supposed to know what it is about?

Card 12. I guess that's his mother and, uh, uh, I don't know about that picture.

Card 13. He had sex with her. And, uh, and I guess he got, he found out about her or something. Or maybe that's his wife, and he found out about her, and, ah, I guess he found out what kind of woman she was so he just can't take

her no more. It hurts him. And that's all.

Subject 044

Card 4. Uh, well, I think he looks like he's mad. She's trying to make up with him or something, and I think, uh, they, I think they will make up.

Card 7. Looks like a mother reading to her children and the little girl is holding a baby and I think it will end up, it looks like they're having a devotion or something and they'll go to bed.

Card 12. Uh, it looks like a woman with her mother and she looks like she is trying to talk with her about something and the lady looks like she is not paying any attention. I think she's listening really, you know, and she'll think about it when she's finished talking.

Card 13. Uh, I think it looks like he's getting ready to leave to go to work or something. He has been in bed and I don't--It looks like he's just leaving to go to work or something. I think she will get up and fix him breakfast and he will leave and go to work.

Subject 045

Card 12. She used to dream of becoming old and one of her dreams stayed with her and haunted her for a long

time, and then she died before she got old.

Card 13. Uh, the man killed the lady because she was going out with other guys. And now he's ashamed of it. He will be arrested and put in prison.

Card 4. The man, they used to go together, and the man doesn't love her any more, and she's asking him not to leave, but he's going to.

Card 7. The mother is trying to talk to the little girl and the little girl doesn't want to listen to her, and she won't be able to. She won't listen to her.

Subject 046

Card 12. Well, the old lady looks like she might have said something about the young one, and the young one looks like she might be mad right now, and they'll probably get it straightened out.

Card 13. She looks like she's sick or he has done something to her, and he looks like he's sorry for it or something now. And if she's sick I guess he'll call the doctor, and if she's not, I guess everything will turn out okay.

Card 4. The man looks like the woman has done something to him and he looks like he is mad at her. And she looks like she is trying to get him back. And, they'll

probably get back together.

Card 7. The little girl looks like she might be upset or something over what the woman did or said to her. And the woman looks like she might be reading to her. And the little girl probably understands, or something.

Subject 047

Card 13. She's dead? They might be mad at each other, or something like that. He's showing that he's--looks like he's crying or been crying or something. He's showing sorrow. I don't know how it's going to end.

Card 12. Is that a lady? Looks like a nun or something. See, I think she's trying to talk to him or something. I don't know how it is going to end either. She's probably trying to get him to go on the right track, or something.

Card 7. Looks like a mother talking to her daughter, telling her what's right and what's wrong, and to be understanding, or something. And it ends by her understanding what her mother is trying to say.

Card 4. It looks like a girl friend and a boy friend talking over, and he seems he's not understanding and wanting to get away from her. And he'll probably walk out on her.



Subject 048

Card 13. Uh, I reckon his wife is dead and he's crying over her and he asks himself what happened, or something. And at the end he finds another woman to be his wife.

Card 12. Uh, I guess it would be a boy's grandma behind him and watching after him for what he does for, and help him with his things, and I guess he was going to be a preacher or something when he gets big. He will become a preacher.

Card 7. A girl's mother is teaching her about the Bible and she's sitting there listening about God. And she decides that she is going to be a missionary who teaches other people about the Bible.

Card 4. It is, uh, a man is going away on a Viet Nam trip and his wife, uh, is concerned about him and doesn't want him to go. So when she finds out he has to go and so she waits for him to come back again and he comes back alive.

Subject 049

Card 7. Her mother is telling her a story and the-- she's holding a doll. And she's looking the other way. She'll be happy.

Card 13. Uh, Uh, Uh, he, uh, was thinking, but he hurt her, and, or something. And he was sad. I don't know

the rest of it.

Card 12. Uh, I don't know about that one. He was, uh, I don't know.

Card 4. It is a love story. He was, she was, in love with him and they got married. And they, uh, got married.

#### Subject 050

Card 7. A little girl found a doll and she didn't want her mama to interrupt her with, ah, oh, her mama is reading her a story and she don't want to listen to it. It will end up that she will be listening to it.

Card 13. The woman is laying there dead and the man is crying. He quits crying.

Card 12. A picture of a woman when she is beginning to get old. And she will begin to look like that at the end.

Card 4. A man going away and she don't want him to go, and when she, uh, and they end up that he will be staying with her.

#### Subject 051

Card 4. Uh, it looks like her husband is going to leave her and she doesn't want him to. And in the end he looks like he will stay because he, you know, looks kinda

like he smiles.

Card 7. Well, I guess the girl did something wrong and that's the mother talking to her. And she's understanding, so I guess she will do it right next time.

Card 13. Looks like she's dead. He has killed her, or something. And, you know, he's upset about it. And I guess she will die and he'll go to court.

Card 12. Looks like a man making fun of her. She probably don't know it, so she'll just go on.

#### Subject 052

Card 4. He looks like that he has been told that he's going to war and that he has told his wife, and she doesn't want him to go, but he goes anyway.

Card 7. Uh, a little girl trying to play house and wanting to learn something. And she's trying to rock her baby, I think. And maybe she don't want to right then, but she will probably.

Card 13. It looks like a woman is dead and the man has found her. And he doesn't know what to do about it because he is shook up and everything. But I guess he will call his friends and make the funeral arrangements and everything, or maybe she's sick one.

Card 12. It looks like a evil woman is working in the back and is going to try to do something to that lady, and she's scared and don't know what to do, and, uh, she'll probably be able to overcome her fear if she's not hypnotized, or something like that. And she'll probably break away from the spell.

Subject 053

Card 13. Uh, that's a husband, I guess, and he has just came home and found his wife and she's real sick or maybe dead. And he's real sad, I guess. He'll probably go and call the doctor and see what's wrong and find out if she's dead or not.

Card 4. Uh, this is a man and his girlfriend, I guess, and he looks like he is kinda mad and she doesn't want him to be. She's talking to him, maybe to find out what's wrong. He won't speak to her. He'll probably just leave and she'll more than likely get real upset about it.

Card 7. Uh, this little girl is sitting here listening to her mother read from some sort of story, I don't know, maybe it's just a story that she enjoys, or something. But, well, it may be something that she's got to read because she doesn't look like she's interested in it. I mean, she's sorta

looking away and just sitting there. She'll probably leave.

Card 12. This is a young woman. She's sorta just standing there with this lady standing behind her. She looks like she's getting ready to maybe hurt her or do something, but she's standing ther just looking real funny. And more than likely the young lady will just leave or be able to, you know, take care of herself so the lady won't hurt her, bother her, or whatever.

Subject 054

Card 12. It looks like, uh, he's thinking back into time when something was real old, or that's the grandmother or something, and that she will always be thinking about her, or I--don't know.

Card 4. It looks like the lady wants the man to like her, but he don't want to pay her any attention. And, uh, or that looks like that must be one of his girlfriends, or something. Or maybe she is trying to get him to like her and he don't want to. And the future, he might find somebody else or try to talk to some other girl.

Card 13. It looks like he's ashamed of what that other lady laying there, or he might be going to bed. I don't know. And, uh, he might, he looks like he's sleepy,

or something. He might just go to bed.

Card 7. It looks like that lady is trying to talk with that little girl, and that little girl don't want to seem to listen, like she has her own plans or something. And that maybe her grandmother will get her into paying some attention to her, or whoever that lady is.

Subject 055

Card 4. These two could be married and they live in their home, and they must love each other pretty much and maybe he has to go to work, or something. And she doesn't want him to leave but he goes anyway.

Card 13. Maybe these two were in love and for some reason he could have killed her, and then felt sorry about it later.

Card 12. It looks like a painting of some sort or a lady could be young and pretty and a older hanging of her when she was old.

Card 7. It could be a daughter talking to the mother or sister or somebody over something that could have happened that could have startled her. And they could come to a conclusion about it, or something.

Subject 056

Card 7. Uh, this is, uh, a picture, uh, of a girl's mother and, uh, she's, uh, turned, uh, to help her understand about how to take care of babies and stuff like that, but she don't seem like she's too enthused about it. And, uh, let's see, then she, uh, that is she, uh, don't want to have her own children.

Card 12. Uh, what's happening is that, uh, that woman right there, she is thinking about, uh, how she, uh, should be to the old lady and about how she would feel if she were in her place and that some day she will be a old lady like her and she will learn how it felt to be like that.

Card 4. This is a picture of a woman and she likes this man, but, uh, he doesn't like her very much so he's trying to get away from her. And maybe he feels that it might be best if he didn't like her because he might get her into trouble. That's all.

Card 13. This is, uh, where a man he did something wrong to this woman and he knows he shouldn't have did it, and now he is sorry that he done it. And he knows that he will get into trouble for doing it, so he starts to leave.

Appendix B  
Mean Scores for the Data

Variable	Subject	NN		WNM	
		Pretest	Posttest	Pretest	Posttest
Latency time	Delinquent	2.56	2.89	2.19	2.22
	Non-delinquent	2.38	2.45	2.19	2.32
Words spoken	Delinquent	5.38	5.21	5.50	5.33
	Non-delinquent	6.10	6.58	6.73	6.98
Speaking time	Delinquent	3.85	4.32	4.17	4.02
	Non-delinquent	4.31	4.15	4.58	4.66
Words per minute	Delinquent	130.77	106.38	106.92	117.08
	Non-delinquent	129.33	154.53	137.75	145.56
Impul- sivity- Defensive- ness Scores	Delinquent	13.62	14.85	14.00	15.25
	Non-delinquent	14.67	15.00	15.38	15.13