THE INCIDENCE OF SPEECH DEFECTS AMONG JUVENILES EXHIBITING ANTISOCIAL AGGRESSIVE BEHAVIOR

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# THE INCIDENCE OF SPEECH DEFECTS AMONG JUVENILES EXHIBITING ANTISOCIAL AGGRESSIVE BEHAVIOR

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# CHAPTER I

## INTRODUCTION

The effect of a speech defect on the adjustment of the possessor is a vital factor in understanding the total individual and his problem. A speech disorder usually results in some emotional reaction of its possessor. Cavan stated, "The roles offered to children are adapted to the normal, average child. Even slight deviations (such as handedness) call for special adjustment on the part of the child" (11, pp. 60-61). Van Riper suggested that there are individuals capable of reacting intelligently and objectively to their speech defect. These individuals, although subjected to penalty and rejection, are capable of accepting with honesty their defect. He stated

> This type of reaction destroys much of the emotionality and abnormal behavior usually built around a difference . . . It furnishes the essential basis for subsequent remedial speech work as it brings the defect into the open and allows its possessor to study it thoroughly and to work on overcoming it (56, p. 66).

Not all speech handicapped individuals have such attitudes. A speech defect may bring forth an emotional reaction of sufficient magnitude to lead to maladjustment of the speaker. The American Speech and Hearing Association Committee on the Midcentury White House Conference noted,

"Generally speaking, so far as the individual's self-evaluation and intimate personal adjustment are concerned, a speech defect tends to be primarily frustrating and demoralizing" (1, p. 136). Berry and Eisenson supported this idea in an early discussion on the effects of speech defectiveness. They stated that "there seems to be a tendency for speech defective individuals to present a personality picture which includes traits considered to be socially undesirable" (6, p. 69). Spriestersbach suggested that speech is of such importance that "any disturbance in this vital process can only lead to frustration which . . . can only result in maladjustment for the person attempting to communicate" (51, p. 330). Froschels (20) indicated the appropriateness of a "psychosomatic" approach in the diagnosis and treatment of both organic and nonorganic speech deviations, implying that the total behavior and mental conflict must be dealt with, rather than the individual's speech alone.

Van Riper (56) has described the chain of emotional reactions which can lead to maladjustment of the speech defective. First, penalty occurs because of the inevitable display of speech abnormality with each communicative attempt. This penalty, afforded by a society which places a premium on normalcy, sets up a chain of feelings in the individual. The first of these feelings is that of frustration. Frustration occurs because speech has lost its function as a means of social control, emotional expression, and ego strength for

the individual. The penalty and frustration are not always handled rationally by the speech defective. Van Riper listed anxiety, guilt, and hostility as common reactions to the frustration. Any of these reactions, if severe, might lead to the maladjustment of the individual.

The specific way in which the maladjustment is manifested is a matter of debate among speech authorities. According to Johnson, Darley, and Spriestersbach, ". . . the relationship between the various types of speech, voice, and language impairment and psychological aberration or personality maladjustment is inconsistent and not well-defined" (31, p. 314). The question then emerges: Does the maladjustment produce an inhibitory effect on the behavior of the speech defective or does it instigate an "acting out" of his frustrations and hostilities?

## Purpose of Study

The question of maladjustment of individuals with speech defects and its subsequent manifestation is the basic issue of this thesis. The study was conducted to answer the question: "What is the incidence of speech defects among juveniles exhibiting antisocial aggressive behavior?"

## Literature Review

### Speech Defectives

Personality and behavior characteristics.--One of the early investigators of the relationship between behavior and

speech defectiveness was Templin (53). Using the Moore-Gilliland test, she measured the trait of aggressiveness among a population of 120 college students, 71 of which were enrolled in the Purdue University Speech Clinic. The limited population prevented any statistically significant results, but a tendency was demonstrated. In general, Templin found that speech defectives as a group were less aggressive than the normal subjects. She found, however, that among the speech defective group alone, stutterers demonstrated the most aggressiveness, individuals with articulation defects showed the least aggressiveness, and voice defective persons fell somewhere between the two (53).

Eisenson (5) used the Bernreuter Personality Inventory in an investigation of personality traits of speech defectives. The two-fold purpose of his study was to determine if personality traits of speech defective college students differed from those of a matched group of normal subjects, and whether those students with clinically significant speech defects exhibited different traits from "the college classroom speech defective" (5, p. 16). Three groups of subjects were used in the study. The clinic group was composed of subjects with serious speech disorders such as lisping, stuttering, and voice disorders. Seventeen freshman students with less serious defects, such as substandard speech, were used for the second group. The control group was composed of fourteen students with normal speech.

The results of the study showed the two speech defective groups to be more deviant than the normal students in all areas measured, with the exception of sociability. The amount of deviation on the personality traits appeared to be a function of the degree of seriousness of the speech problem. Eisenson found that the clinic group was more neurotic, less self-sufficient, more introverted, more submissive, and less self-confident than the substandard group of speakers. This group, in turn, demonstrated more deviation than the control group. Eisenson stated the following conclusions to his study:

> The personality traits of college speech defectives are different, slightly and undesirably so, from those of college students with normal speech.
>
> The differences in personality traits which appear between mild speech defectives and normal speakers become increased in seriousness when clinic students with more severe speech defects are compared with normal speakers (5, pp. 16-17).

Perrin (42) questioned 445 elementary-grade school children to compare the social status of 37 speech defective children with their classmates. Although a few stutterers and some children with voice problems were included, the majority of the children possessed articulation errors. Finding almost one-third more "isolates" among the speech defective children, the investigator concluded that this group demonstrated the unacceptability of speech defectives to their classroom group.

On the basis of clinical experience Van Riper (56) made the following observations of the behavior he has found among speech defectives: "lying, enuresis, constipation, temper tantrums, stealing, arson, suicide, use of obscene language, cruelty to pets, fighting, destruction of property, disobedience, attempted suicide, sexual promiscuity, and feeding difficulties" (56, p. 65).

The impact of defective speech on the development of personality was discussed among the observations of the Mid-century White House Conference. This survey reported

> Aggression, hostility, and resentment are among our most common reactions to significant frustrations, and they are to be found accordingly among children and adults frustrated in speech. These are modes of reaction, however, that do not tend to be very rewarding, especially where speech is concerned, and perhaps it is partly for this reason that the most common important reactions to frustrated speech are feelings of shame and discouragement, feelings of inferiority and insecurity, and a tendency to be shy, to withdraw from social situations (1, p. 136).

Studies dealing with the personalities of individuals possessing functional types of speech defects, particularly articulation, support ideas of maladjustment. Solomon (50) conducted a study in 1961 to determine behavior patterns of children with functional defects of articulation. Two judges independently interviewed the mothers of forty-nine children with articulation defects. The children were matched with a control group on the basis of intelligence, grade level, and socioeconomic background. The author stated that the findings of the study reveal that ". . . more serious

problem behavior of a particular kind, as well as certain specific personality characteristics, will be more apt to occur among children with functional defects of articulation than among a comparable group of normal-speaking children" (50, p. 735). In his discussion of the study, Solomon noted specifically

> In personality, the experimental subjects tended to be passive children who internalized their responses and who were further characterized by submissiveness, timidity, and a need for approval (50, p. 736).

Nelson (39) reported that studies done by Reid and McAllister found no significant differences in adjustment, social and personal, of normal and speech defective children. Nelson studied children with functional articulation defects. One of the purposes of his study was to investigate the personal and social behavior of these children. Using subjects from the third, fifth, and seventh grades, he obtained scores from the California Test of Personality and teacher ratings on the Haggerty-Olson-Wickman Behavior Rating Schedule for the speech defective children and a matched group of normal children. Nelson reported that scores on the California Test of Personality indicated similar normal adjustment patterns for both the experimental and control groups. On the basis of the Haggerty-Olson-Wickman scale, however, the speech defective children were noted to have less desirable behavior than the normal children.

Spriestersbach (51) in a research study of literature dealing with articulation disorders, reported two unpublished studies dealing with personality. Kennedy rated twenty-seven articulation defective children on social adjustment using the Personality Scale of the American Council for Education. It was noted that twelve of the cases demonstrated moderate or serious behavior deviations with the twelve ". . . about equally divided as to aggressive and withdrawn types" (51, p. 332).

Spriestersbach reported the result of Deming's 1952 study in which the Bender Visual-Motor Gestalt Test was given to twenty elementary school children with speech defects and an equivalent control group. The author stated, "On the basis of the qualitative interpretation of the test results, Deming concluded that the speech defectives were more withdrawn and constricted in their social and outer world relations than were the children with normal speech" (51, p. 332).

The inherent role of personality in the disorders of the voice has long been recognized, although no consistent pattern of behavior seems to accompany personality maladjustment. Most examiners state simply, as did Van Riper, that ". . . the voice is closely integrated with personality" (56, p. 181). Moore (36) published a study indicating a possible relationship between specific voice qualities and personality traits. With the Bernreuter Personality Inventory as a measuring device, he found that students with breathy

voices were characteristically introverted and neurotic as compared to the dominant, emotionally stable individuals exhibiting harsh or metallic voices.

The question of personality and stuttering has been studied by many authorities in both speech and psychology. A conclusion of Goodstein's research of adult stutterers indicated that ". . . the stutterers do appear different, usually more anxious, tense and socially withdrawn" (24, p. 375). Goodstein stated, however, that as a group the stutterers did not seem neurotic or severely maladjusted. Research by Murphy and Fitz-Simons suggested, however, that ". . . the personalities of stuttering persons can be distributed along a very broad adjustment continuum extending from psychotic to normal adjustment" (38, p. 153).

Walnut (58) investigated the personalities of thirty-eight stuttering and fifty-two normal students of high school age. The short form of the Minnesota Multiphasic Personality Inventory was administered to each of the students. Walnut found that the stuttering group, although well within the normal range of personality as measured by the MMPI, exhibited slight indications of paranoid and depressive tendencies when compared with the control group in the study.

Santostefano (46) conducted a project to study anxiety and hostility. He tried to determine if stutterers could be differentiated from nonstutterers on the basis of these factors. Anxiety was defined as ". . . apprehension cued off

by a threat to anything which the individual holds essential to his existence as a personality" (46, p. 338). Hostility was designated as ". . . the anger, resentment, and enmity cued off by the same kind of threat" (46, p. 338). Twenty-six stutterers on the basis of sex, age, and mean intelligence. The mean age of both groups was approximately twenty years. Mean intelligence of both groups was approximately 121. The subjects were administered the Rorschach test and were rated for anxiety and hostility. Subjects were also asked to recall previously-learned material under neutral and stressful conditions. Results showed that stutterers rated significantly higher in both anxiety and hostility as measured by the Rorschach. The stutterers also showed a significantly greater decline in recall performance than non-stutterers. The author concluded that ". . . by adulthood a stutterer develops an enduring emotional disposition characterized by general anxiety and hostility which interferes with his personal adjustment and efficiency of functioning" (46, p. 346).

Personality of college age stutterers was measured in a study by Richardson (45). He administered three psychological tests to thirty stutterers and thirty normal speakers matched on the basis of age, sex, mental ability, and college experience. Each group tested consisted of eight women and twenty-two men. The subjects ranged in age from 17 to 48 years; mean age was 27.8 years. The first test administered,

the Inventory of Factors STDCR, revealed that the stutterers were ". . . more socially introvertive, more depressed, and less happy-go-lucky than the nonstutterers" (45, p. 159). On the Rorschach ink-blot test, stutterers failed to see movements or respond to colors. Interpretation of these responses suggested that the stutterers failed to recognize "inner promptings" and failed to respond impulsively to outside environment. There were no significant differences between the groups as revealed by the Thematic Apperception Test.

Glasner (21) studied the personality characteristics and emotional problems in stutterers under five years of age. Seventy children identified by a speech pathologist as possessing repetitions, prolongations, and blocking of sounds different from usual nonfluencies in children were observed and examined by members of the children's Psychiatric Service of Johns Hopkins Hospital. The children ranged in age from two years, two months, to four years, eleven months. The median age of the subjects was three years, six months. The author reported that attitudes of the subjects were difficult to determine but ". . . there was evidence that some anxiety and consciousness did exist" (21, p. 135). The author also reported that all of the children exhibited some degree of emotional manifestation besides stuttering, and over half showed two or three other indications of emotional disturbance. Fifty-four per cent of the subjects had feeding problems;

twenty-seven per cent were enuretic; twenty per cent of the children had exaggerated fears or nightmares. Other symptoms reported included ". . . thumb sucking, exaggerated sibling jealousy, nail biting, encopresis, masturbation, emotional vomiting, and numerous others" (21, p. 136).

Beckey (4) undertook a clinical analysis of fifty delayed speech cases to determine possible contributing or related factors. A corresponding control study of fifty normal children was made to determine similarities and differences between the groups. All subjects in the study ranged in age from two to seven years. The analysis was approached from a physical, environmental, and psychological standpoint. The results showed no significant differences in the behavior problems of the two groups. The author reported that each case of the two groups exhibited at least two of the following problems:

> . . . temper tantrums, fears, thumb or finger sucking, crying spells, shyness, isolated playing, enuresis, masturbation, nail-biting, jealousy, mother-attachment, poor eating habits, destructiveness, extreme negativism, daydreaming, nervousness and nightmares (4, pp. 240-241).

Intelligence.--Intelligence has been considered as a common operative factor to both delinquent behavior and speech defectiveness. The relationship between speech defects and intelligence is one not thoroughly known.

Winitz (61) reviewed research studies relating articulation and intelligence. This review only included studies

in which subjects within the normal range of intelligence were used. The studies were difficult to compare because of differences in sampling procedures, subjects, and testing instruments. Winitz indicated, however, that a consensus of the studies showed low but positive correlations for articulation performance and intelligence.

Reid (44) tested thirty-eight elementary school children judged to have articulation defects. The mean chronological age for the subjects was 8 years, 8 months, and mean IQ score was 106.8, as previously recorded in personal files of the children. Results indicated that articulation ability is unrelated to intelligence when the level of intelligence is above that indicated by an intelligence quotient of seventy.

Schneiderman (47) investigated the relationship between articulatory ability and language ability in children six and seven years old. Seventy children, forty-one boys and twenty-nine girls, of similar socioeconomic backgrounds participated in the study. Children with organic articulation problems or suspected mental deficiency were excluded from the study. Mental age was assessed by means of the Chicago Non-Verbal Examination, and articulation scores were measured by the Bryngelson-Glaspey Speech Improvement Cards. Articulation ability related to mental age with a correlation of .35. The author stated that "articulation ability . . . did show an increase with growth in mental age" (47, p. 363).

Everhart (17) conducted a study to determine the importance of different developmental factors in the maturation of speech articulation of children in the first six grades of school. One of the factors studied was intelligence. A clinical analysis was made of 110 elementary children having articulation deviations and a matched group with normal articulation patterns. Intelligence was determined by each child's performance on the California Short-Form Test of Mental Maturity. The author concluded that ". . . a positive correlation exists between the factor of low intelligence and the incidence of articulatory disorders" (17, p. 338).

In a survey of speech disorders among public school children, Louttit and Halls (34) found 2.5 times as many children with articulatory defects in classes for subnormal children as in the total school population. Stuttering was reported in over three per cent of the subnormal children, or four times as frequent as in the total school population.

In the previously discussed study by Beckey (4) relating various factors to retardation in speech, it was found that twenty per cent of the speech retarded group scored below average on the Stanford-Binet, and forty-four per cent had ratings marked "indeterminate." In the corresponding control group, two per cent of the population scored below average. None of the children in the control group were given ratings of "indeterminate."

Templin (54) studied the language and articulation skills of 480 children between the ages of 3 and 8 years. The articulation test consisted of 176 sound elements measured in each child's production of particular words. Intelligence of children below six years of age was measured by the Ammons Full Range Picture Vocabulary Tests; children six years and above were given the Stanford-Binet. Individual intelligence scores ranged from 74 to 172, with the mean intelligence quotient for the eight age levels ranging from 106.8 to 123. The obtained correlations between articulation skill and intelligence ranged from .24 to .48.

Winitz (60) tested seventy-five girls and seventy-five boys of kindergarten age to investigate the language skills of each. Subjects were restricted to physically normal white children of monolingual homes. Normal intelligence, as measured on the Wechsler Intelligence Scale for Children, was a requisite for qualification to the study. The Templin Screening Test of Articulation was the measurement tool of articulation proficiency. The scores for the intelligence test ranged from 72 to 133, with the mean falling at 100.5. A correlation of .34 was found between the Templin Test and the Wechsler Intelligence Scale for Children.

Berry and Eisenson (5) reported results of three investigations of intelligence of stutterers. McDowell found a mean IQ of 101.9 for 50 elementary school stutterers. Steer measured the intelligence of college-age stutterers

and found a mean IQ of 116.5. Johnson reported an IQ range of 105 to 136 for stutterers. The authors concluded that ". . . stutterers as a group, are at least normal in intelligence" (5, p. 8).

Goodstein (25) studied the degree and characteristics of intellectual impairment in a sample of 105 children, aged 5 to 16 years. All children had a cleft lip or palate or both. A matched control group of ninety-five normal children were also studied. The Wechsler Intelligence Scale for Children was administered to gain an intelligence score for subjects in the study. All three mean scores, including Verbal, Performance, and Full Scale, obtained by the experimental group were lower than corresponding scores for the control group. A statistically significant intellectual deficit of six to eleven points was found in the cleft palate group.

Karlin and Strazzulla (32) surveyed fifty mentally deficient children between the ages of three and fourteen to determine the incidence of speech defects. Intelligence quotients of the subjects in the study ranged from fifteen to seventy. Eleven of the subjects had IQ scores between fifteen and twenty-five, twenty-six subjects had scores which ranged from twenty-six to fifty, and thirteen had scores from fifty-one to seventy. The authors reported that the majority of the cases had speech defects, with articulation being the most common. One subject was identified as

possessing stuttering symptoms, and nasality and huskiness were predominately found among mongoloids.

Sirkin and Lyons (48) studied 2500 institutionalized mental defectives and found that only one third of them had speech within the range of normalcy. The authors suggested from their study that the lower the intelligence quotient, the lower the incidence of normal speech.

Incidence.--Accurate estimates of the incidence of speech defects among the general population are difficult to find. Hull and Timmons stated that ". . . our profession has not provided the information on which to base a national prevalence figure for speech and hearing disorders in school children" (29, p. 360). Many surveys have been made to estimate the incidence of speech defectiveness.

Blanton (7) surveyed seventeen schools in Wisconsin for speech defects. A total of 4862 children ranging from 4 to 18 years were asked to repeat a particular nursery rhyme or read a sentence designated by the examiner. The author found that 5.69 per cent of the population tested possessed a speech defect.

Mills and Streit (35) made a study of the speech of 4685 children enrolled in public schools. Each child in the first three grades was tested individually by two examiners; other children were tested on a referral basis. A total of 473 or 10.1 per cent of the children tested were found to demonstrate defective speech.

A survey was conducted by Carhart (9) to determine the incidence of speech defects among high school students in Illinois. Questionnaires were returned from 405 schools enrolling 144,570 students. The questionnaires, completed by untrained examiners, revealed that 20.8 per cent of the pupils needed speech rehabilitation.

In a survey of speech and hearing therapy facilities in Ohio, Irwin (30) reported that four per cent of the school population of the state was receiving speech therapy.

Burdin (8) conducted a survey of 3602 pupils in the first four grades of twelve Indiana schools to determine the incidence of speech defects. The schools chosen for the study represented a cross-section of the entire primary-elementary school system in that state, on the basis of seven distinct social-economic classifications. The mean of the total prevalence of speech defectives in the twelve schools was 2.94 per cent, of which 1.88 per cent were males and 1.06 per cent were females.

Morley (37) reported a ten-year survey of speech disorders among incoming and transfer university students. A total of 33, 339 students were individually tested by speech examiners. Speech samples were obtained through a short reading passage and informal conversation. Morley stated that 3.85 per cent of the students examined had clinically significant speech defects. In terms of sex distribution,

67.50 per cent of the cases were males, 32.34 per cent were females.

Baynes (3) surveyed 1012 children in the first, third, and sixth grades from six elementary schools in Michigan to evaluate the incidence of chronic hoarseness. The survey was conducted in three series, one month apart, to identify voices that were chronically hoarse. The results of the survey indicated that 7.1 per cent of the subjects who were tested demonstrated chronic hoarseness. The highest incidence was among first-grade children.

Frick (18) sent questionnaires to fifty public school speech therapists in the state of Pennsylvania to determine the frequency of voice defects among school-age speech defective children. Frick reported that 2.01 per cent of the 37,224 children represented in the study had voice problems.

Craig (14) surveyed the frequency and nature of speech defects among 692 children in the first four grades of four Negro schools in Georgia. The children were given the Kuhlman-Anderson Intelligence Tests, the Metropolitan Readiness Tests, the Progressive Reading Tests, and the Gray Oral Reading Paragraphs. Each child's speech was rated along a five-point scale ranging from severely defective to superior. Criterion used to judge whether or not speech was defective was not provided. The author found that 13.9 per cent of the subjects had severely defective speech and 21.4 per cent had mildly defective speech. Percentages for adequate, good,

and superior speech were 42.9 per cent, 17.8 per cent, and 4.0 per cent, respectively. Defects of articulation accounted for ten per cent of the speech judged to be defective.

The most recent extensive research to estimate the number of speech defects was conducted in the early 1950's by the Midcentury White House Conference on Children and Youth (1). This conference determined that a minimum of five per cent of school age children had serious speech defects, with an additional five per cent exhibiting minor defects.

## Juvenile Delinquency

Personality and behavior characteristics.--Quay (43) reported a series of studies investigating the relationship of personality characteristics to the rate of juvenile delinquency. Subjects for the study were tested with the Minnesota Multiphasic Personality Inventory in the ninth grade. Follow-up investigations were conducted after two, four, and five years. Quay stated that the studies showed personality characteristics of aggression, hostility, overactivity, and individualistic activity. He further indicated that ". . . characteristics felt to reflect withdrawal, repression, physical symptom formation, and a tendency toward opposite sex identification . . . have an inhibitory effect in regard to delinquent behavior in children" (43, p. 145).

Quay also reported a paper by Dinitz, Reckless, and Kay which substantiated the presence of aggressiveness and

impulsivity as predictive characteristics of juvenile delinquency (43, p. 148).

Cavan (11) indicated the relationship between social class, the juvenile delinquent, and his subsequent behavior. She stated that ". . . the delinquent boy no longer feels constrained to curb hostility or aggression; he no longer feels guilty when he breaks middle-class standards" (11, p. 87).

Hewitt and Jenkins (27) classified three syndromes of delinquent behavior. Their observations were based on the records of 500 children referred to the Michigan Child Guidance Institute. Characteristics of the first type included defiant aggression and disregard for others. Behavioral symptoms included assault, excessive cruelty, fighting, and open defiance of authority. The second syndrome included aggression and hostility. The most characteristic behavioral symptom of this type was participation in gang activities. The third syndrome described traits of seclusion, shyness, sensitiveness, and submissiveness.

Wirt and Briggs (62) described delinquents as persons who ". . . act out, are nonconforming, extrapunitive, unpredictable, self-indulgent, envious, deceitful, critical, sensitive to demands, and give up when frustrated" (62, p. 39). Blau (14, p. 109) stated that all antisocial behavior is aggressively self-indulgent and rebellious.

Bandura and Walters (2) reported an investigation of fifty-two boys in a study of aggression. Twenty-six of the

boys had histories of aggressive antisocial behavior; twenty-six boys with normal histories, carefully matched for age, intelligence, and background, served as the control group. The authors reported

> An over-all view of the typical characteristics of the aggressive boys shows how they emerged from comparison with their more adequately socialized counterparts. In the first place, they expressed their aggression in a much more direct and uninhibited manner, particularly outside the home; they were more openly antagonistic to authority and less positive in their feelings toward their peers (2, p. 312).

Related factors.--Mental deficiency has been thought to be the major cause of juvenile delinquency. According to Shulman, "The application of . . . early crude intelligence tests to samplings of institutionalized offenders in prisons, reformatories, and juvenile training schools and the finding that a very large proportion of those tested could be diagnosed as mental deficients, led to the single-factor theory of mental deficiency as the greatest cause of delinquent conduct" (22, p. 75). Subsequent research has indicated that intelligence, although significant, is probably not the major force behind delinquency. Shulman (22) reviewed the literature pertaining to intelligence and juvenile delinquency. He reported that Healy and Bronner found 13.5 per cent of their delinquent cases to be mentally deficient compared to 2.6 per cent in the normal population. Merrill reported 23 per cent of Los Angeles delinquents to have IQ's below 70. Glueck, comparing delinquent and normal populations, found

that 41.6 per cent of the delinquents had IQ's over 90, compared to 79 per cent of the school children.

Sheldon and Glueck (23) reported that delinquents, in general, averaged less than non-delinquents in verbal intelligence but scored similarly on performance intelligence as measured by the Wechsler-Bellevue Scale. Careful analysis of the scale indicated that delinquents showed less aptitude in Vocabulary, Information, and Comprehension, but that they resembled non-delinquents in their scores on Similarities, Arithmetic Reasoning, and Memory Span for Digits.

Quay stated that "the test scores of delinquent samples tend to be about 8 IQ points less than that of the general population, but appear comparable to that which would be expected from non-delinquents of similar backgrounds if tested under similar circumstances" (43, p. 131).

The question of physical defects as a contributing or causal factor in delinquency has also been researched. Christie (12) conducted a study to determine the presence of physical defects in delinquent boys. Two hundred eighty-two normal boys were matched with an equal number of delinquent boys on the basis of age. Each subject was given routine height and weight measurements, nose and throat cultures, and Wassermann tests. In addition, a complete physical examination was given by a physician and a case history taken. In the delinquent group, 3.2 per cent were without physical defects, compared to 21.0 per cent in the normal population. Impaired

hearing occurred in 14 per cent of each population. Twenty-eight per cent of the delinquent and nineteen per cent of the normal boys had some type of visual impairment. The author concluded that ". . . the delinquent does not form a special group physically" (12, p. 22).

Wallace also investigated the presence of physical defects among 200 delinquents and found an unusual number of physical defects. General hygiene was poor, but gross deformities were few, the author reported (57).

Kodman (33) tested the hearing of 306 delinquent children between 10 and 20 years of age. Individual pure tone audiometers were used to obtain threshold measurements at 125, 250, 500, 1000, 2000, 4000, and 8000 cycles per second. Testing was conducted in a room described by the author as being "quiet" but not sound-treated. Hearing loss was defined as failure to meet a criterion of thirty decibels at one or more frequencies in either ear. Eighteen per cent of the children were found to have a hearing loss. The author stated that this incidence was more than twice that found in a comparison sample of public school children.

Noffsinger (34) conducted a study in 1960 to investigate the possibility of speech defectiveness as a causal factor of juvenile delinquency. The author surveyed two juvenile detention homes to determine the incidence of speech problems. One hundred forty-eight subjects between the ages of seven and eighteen were tested. Forty-nine per cent of the

population used in the study involved Negro, Indian, and Latin American subjects. The investigator utilized Eisenson's description of defective speech to identify speech disorders among his subjects:

1. It is not easily audible.
2. It is not readily intelligible.
3. It is vocally unpleasant.
4. It deviates in respect to specific sound (consonant, vowel, or diphthong) production.
5. It is labored in production, or lacks either conventional rhythm or stress, tonal quality, or pitch change.
6. It is linguistically deficient.
7. It is inappropriate to the speaker in terms of age, sex, or physical development.
8. It is visibly unpleasant (5).

The author found 60.14 per cent of the total population to possess speech defects; he concluded that speech problems might contribute to the problem of juvenile delinquency.

Cozad and Rousey (13) made a survey of speech and hearing disorders among delinquent children in two Kansas industrial schools for delinquent youth. Hearing was screened by means of individual pure tone sweep checks at ten decibels re: hearing loss dial of the audiometer. Air and bone conduction threshold tests were given to those who failed the initial screening test. Three hundred students were screened for hearing. Of the 300 subjects, 212 were boys and 88 were girls. The girls ranged in age from twelve to eighteen years, with the median age falling at sixteen years; the boys ranged from ten to eighteen years, with fifteen being the median age. Of the 300 boys screened for hearing loss, 29.2 per

cent demonstrated losses; 12.5 per cent of the girls had hearing losses. The greatest number of hearing losses were sensori-neural in nature. Mixed hearing losses accounted for the remainder of the hearing impairments; no purely conductive losses were found.

The Templin-Darley Screening Test of Articulation served as a stimulus for the speech survey. Cozad and Rousey reported that 58.3 per cent of the students surveyed presented a speech disorder. Of the 59.4 per cent of boys with speech disorders, 28.5 per cent had articulation problems, 12.1 per cent stuttered, 7.3 per cent exhibited voice defects, 5.5 per cent both stuttered and had defects of voice, and 1.2 per cent stuttered and demonstrated both articulation and voice defects. Of the girls tested, 56.4 per cent exhibited a speech disorder. The type of problems, in descending order of frequency, were articulation defects, stuttering and articulation problems, articulation problems and voice disorders, and voice disorders alone.

## Definition of Terms

Antisocial aggressive behavior was described by Bandura and Walters in an empirical study attempting to relate delinquency to the frustration of dependency needs which cause aggression. The type of behavior they described was limited to ". . . acts of a socially disruptive nature . . . that result in injury or harm to persons or property" (2, viii).

Delinquency has been defined in many ways, each definition attempting to point out certain attributes of delinquent behavior. Legally, a delinquent was defined by Glueck and Glueck as ". . . any child who commits even a single minor act in violation of the law" (23, p. 13). Cavan stated that a more exact definition of delinquency is ". . . behavior which the people of a state and their leaders believe to be a threat to public safety or a hindrance to the best development of the child, and whose prohibition they have incorporated into law" (11, p. 3). Sheldon Glueck described delinquency in terms of offenses against society:

> 'Delinquency,' depending on the provisions of a particular statute, may include not merely the serious offenses which when committed by adults are denominated crimes, and not only such deviant childhood behavior as truancy, running away from home, 'stubbornness,' disobedience and similar conduct compendiously referred to as 'incorrigibility' or 'waywardness,' but also more general and vague attitudes of an antisocial flavor or tendency, such as hostility, aggressiveness, and even guilt feelings leading to some form of deviant behavior deemed potentially dangerous to the child and to society (22, p. 3).

The Children's Bureau, a federal agency, utilized the following definition of delinquency in a report:

> 'Juvenile delinquency cases are those referred to courts for acts defined in the statutes of the State as the violation of law or municipal ordinance by children or youth of juvenile court age, or for conduct so seriously antisocial as to interfere with the rights of others or to menace the welfare of the delinquent himself or of the community' (11, p. 15).

Glueck and Glueck, in an extensive research project concerning

juvenile delinquency, described symptomatically the characteristic of all delinquent behavior:

> . . . all delinquent behavior . . . has the common denominator of maladaptation of the individual to the demands of a social code, be it to the rules of family life, school life, or life in that larger society which is protected by laws (23, p. 13).

The term, speech defective, has been described by Van Riper in terms of its identifiable characteristics. He stated, "Speech is defective when it deviates so far from the speech of other people that it calls attention to itself, interferes with communication, or causes its possessor to be maladjusted" (56, p. 16). Berry and Eisenson described speech as being defective if ". . . attention, to a significant degree, is distracted from the communication to the individual's communicative effort" (5, p. 1). The types of defective speech include those enumerated by Berry and Eisenson (5, p. 2). Defects of articulation are characterized by sound omissions, substitutions, additions, or distortions (56, p. 19). Defects of phonation or voice include disorders relating to inappropriate pitch, intensity, or quality (56, p. 27). According to Van Riper, rhythm defects include stuttering and cluttering. He described stuttering as ". . . oscillations, fixations, repetitions, and prolongations of sounds and syllables . . ." (56, p. 23). Cluttering is characterized by ". . . unorganized, hasty spurts of speech often accompanied by slurred articulation" (56, p. 503).

Language dysfunction refers to ". . . the inability or limited ability of an individual to use linguistic symbols for communication" (64, p. 28).

Van Riper emphasized the consideration of cultural norms in the evaluation of defective speech. He stated that "a speech defect, then, is one which is so different from the normal speech of the social group that it is highly conspicuous" (56, p. 16). Webster's Seventh New Collegiate Dictionary referred to a dialect as a ". . . variety of a language . . . differing distinctively from the standard language" (59, p. 229). It stated that a dialect might be of regional or occupational origin, or it might serve as the language of a particular social class (59, p. 229). It might, therefore, be considered that different dialects of English, such as Negro and Spanish-American, are the results of a variety of the English language spoken by a particular social group.

The question of "correctness" of a dialect is one not so easily answered. Linguists tend to reject the idea of "substandard" speech.

> The science of language has democratized our views on such points as these; it has taught us that one man's speech is just as much a language as another man's; that even the most cultivated tongue that exists is only the dialect of a certain class in a certain locality (19, p. 43).

Carrell and Tiffany recommended that the speech of the

educated individuals of a culture or area serve as guidelines for correct speech (10, p. 6).

For the purposes of this thesis, then, dialectal speech will be considered defective only when it fails to conform to the specific features of the social culture from which it originated, or if it meets one of the criteria set forth in Van Riper's definition of defective speech (56, p. 16). Specific identifying characteristics of the phonetic features, vocabulary, voice quality, and stress patterns of Negro and Spanish-American speech may be found in Appendix 1 and Appendix 2, respectively.

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# CHAPTER II

## PROCEDURE

A survey was conducted at the Dallas County Juvenile Detention Home to determine the incidence and nature of speech disorders. Two hundred fifty-eight children held in detention between May 15, 1967 and July 15, 1967, were given a speech test consisting of an articulation test, reading sample, and informal conversation.

### Description of Measurement Devices

In order to acquire accurate samples of speech and language, three different measures were obtained. These measures included a standardized phonetic test, a reading sample, and informal conversation. The Clark Picture Phonetic Inventory was used to test articulation. This test consisted of 110 stimulus items to be administered in picture form. A copy of the stimulus words in this test is included in Appendix 3. The Clark Picture Phonetic Inventory tests consonant sounds, vowels, diphthongs, and consonant combinations. The test consisted of twenty-five different consonants in the initial, medial, or final position, twelve vowels, six diphthongs, and twenty-seven two or three consonant combinations. Sound substitutions, distortions, omissions, and additions were recorded on a scoring form. Scoring was based directly

on ". . . the number of 'critical sounds and sound-combinations' the child can produce correctly" (1, p. 118).

A pretest study was conducted to determine the reliability of the examiner to judge speech responses. The examiner and two speech clinicians experienced in diagnostic testing independently tested five children admitted to the North Texas State University Speech and Hearing Clinic for diagnosis and appraisal. The Clark Picture Phonetic Inventory was administered and conversational speech obtained from each of the subjects. Correlations between the examiner and the two experienced speech clinicians for the articulation test were .89 and .93. The ultimate diagnosis of the speech disorders for the five children was the same by all three examiners.

The Leavell Analytical Oral Reading Test, Form A, was used to obtain a reading sample from each subject. This test consisted of nine different paragraphs of progressing difficulty. A copy of the reading passages may be found in Appendix 4. The test was so designed that the first paragraph was commensurate with the reading ability and vocabulary of a child reading successfully at a first grade level. The second paragraph corresponded to the reading ability of a reader in the second year of school, and so on. The child was instructed to read the appropriate paragraph designated by the examiner. If the passage chosen seemed too difficult for the subject, another paragraph of less difficulty was selected for reading. A reading score was not obtained. The

test was used primarily for observation of speech responses in connected discourse.

The third measurement device was a sample of spontaneous conversational speech. If conversation was not volunteered by the subject, a question intended to initiate conversation was posed by the examiner. The questions used most frequently were: "What do you enjoy doing in your spare time?" and "Tell me about the things you do at school (home, or work)." Statements of encouragement, such as "Tell me more," were often used to gain a sufficient sample of conversational speech.

A pilot study was conducted prior to the actual study to investigate the adequacy of the measurement instruments. Ten subjects chosen at random from the daily intake roll of the Dallas County Juvenile Detention Home were administered the Clark Picture Phonetic Inventory and the Leavell Analytical Oral Reading Test. A conversational sample was also obtained. It was found that both the reading sample and conversational discourse were needed to provide an adequate speech sample. Six stimulus words in the Clark Picture Phonetic Inventory were changed because of the subjects' apparent lack of familiarity with the standardized stimulus. In each instance, a word providing the same phonetic stimulus was substituted. These changes may be noted in Appendix 3.

## Testing Facilities

Testing was conducted in the library at the Dallas County Juvenile Detention Home with only the examiner and subject present in the room. During the examination period the subject sat at a long table, and the examiner sat facing him, across the corner of the table. A tape recorder, used for recording interviews, sat in a chair beside the examiner, and the microphone was placed on the table approximately eighteen inches from the subject. The tape recorder was on when the subject entered the room and remained on throughout the testing period.

## Subjects

Subjects were selected from the Dallas County Juvenile Detention Home, Dallas, Texas. This home serves as a temporary station for delinquent juveniles apprehended for violation of civil or criminal law in Dallas County. All subjects, therefore, possessed the single common trait of antisocial aggressive behavior. The order in which subjects on the daily intake rolls were examined was determined by a system of random numbers. Boys and girls held in detention between May 15, 1967 and July 15, 1967, were used in the study (2). During the month of May, subjects were tested at the Dallas County Juvenile Detention Home two afternoons a week. This number was increased to five afternoons a week during June and July. The total population of the study consisted of

188 boys and 70 girls, a total of 258 subjects. A summary of the population tested may be seen in Table I. One hundred

TABLE I

SUMMARY OF THE POPULATION TESTED AT THE DALLAS COUNTY JUVENILE DETENTION HOME

| | White | | Negro | | Spanish American | | |
|---|---|---|---|---|---|---|---|
| | M* | F | M | F | M | F | Total |
| 10-12 Years | 14 | 2 | 23 | 2 | 4 | .. | 45 |
| 13-15 Years | 42 | 28 | 45 | 12 | 3 | 2 | 132 |
| 16-18 Years | 36 | 20 | 17 | 3 | 4 | 1 | 81 |
| Total | 92 | 50 | 85 | 17 | 11 | 3 | 258 |

*"M"--male, "F"--female.

forty-two white, one hundred two Negro, and fourteen Spanish American children were tested. The mean age of the group was 14.3 years. Girls ranged in age from 11 to 17 years, with a mean age of 14.8 years. Boys ranged in age from 10 to 17 years, with a mean age of 14.2 years.

Not all children admitted for detention during the two-month period could be seen. Children were admitted to the detention home at any hour of the day and were released in an equally random fashion. Length of residence in the detention home was determined on an individual basis, depending on severity of the offense, the offender's previous record,

cooperation from parents or guardians, and the decision of the Probation Officer. Thus it was possible for a child to be both admitted and released from detention between examining periods of the study.

A total of seventy-seven different children, admitted to the detention home during the course of the study, were not tested due to their brief stay in detention. One other subject admitted during the experimental period was not tested at the request of detention home officials. Records of the children who were not tested were examined to determine if any particular type of offense or child was eliminated from the study because of the testing schedule. This examination revealed no apparent differences between the children tested and the children not tested during the two-month period.

## Experimental Procedure

The order in which subjects on the daily intake rolls were examined was determined by a system of random numbers. All names appearing on the intake roll were assigned a number. A corresponding set of numbers was made and mixed in a box. A number was drawn, and the child whose name corresponded with the drawn number was then examined. The name of the subject selected was given to a detention home official, who brought the subject to the testing room. The subject was given a brief introduction to the nature of the task at which time the examiner attempted to gain the confidence and acceptance of the subject.

A gross hearing and language check was undertaken to establish the child's ability to hear, comprehend, and participate in the tests for the study. To carry out this screening, the examiner placed a panel of six stimulus pictures before the subject. From a position behind the child's back, the examiner asked him to designate a particular picture. Another picture was then designated, and the subject was asked to name and describe it. Success with these tasks qualified the subject for the study. None of the students interviewed and screened as described were unable to participate in the study.

The Clark Picture Phonetic Inventory was administered, and any deviations from normal in speech patterns were noted. Following the articulation test, the reading sample was obtained and conversational discourse initiated. As determined necessary by the pilot study, all three measurement tools were attempted with each child. Three children refused to engage in any conversation with the examiner; therefore, the reading sample served as the measurement for connected speech. Six children were unable to read the simplest reading passage. Extended informal conversation was attempted with these subjects so that a sufficient sample of connected discourse was obtained. All children were given the Clark Picture Phonetic Inventory. When the examiner felt that an adequate speech sample for reliable judgment had been gained, the subject was dismissed and another subject brought to the room.

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# CHAPTER III

## RESULTS

Two hundred fifty-eight juveniles detained at the Dallas County Juvenile Detention Home were screened between May 15, 1967 and July 15, 1967, to determine the incidence of speech defects among juveniles exhibiting antisocial aggressive behavior. All subjects shared the common trait of antisocial aggressive behavior manifested in the form of civil or criminal law violation in Dallas County. Seventy girls and one hundred eighty-eight boys were screened. Of the 258 subjects seen, 142 were white, 102 were Negro, and 14 were Spanish American. The subjects ranged in age from 10 to 18 years, with a mean age of 14.3 years. Performance on the Clark Picture Phonetic Inventory, Leavell Analytical Oral Reading Test, Form A, and conversational discourse served as a basis for judgment of the speech status of the subjects.

The results of the speech survey are presented in Table II. Of the population tested, 10.1 percent demonstrated a speech defect. Girls in the study had an incidence of 7.1 per cent speech defectiveness, compared to 11.2 per cent among boys. Negro subjects, both girls and boys, had a greater incidence of speech defectiveness than white juveniles. Speech defective Negro boys represented 14.1 per cent of the

total male population in the study; speech defective white boys represented 9.8 per cent. Of the 70 girls tested, 11.8 per cent were speech defective Negro girls, and 6.0 per cent were speech defective white girls. No speech defects were found among Spanish American subjects.

TABLE II

INCIDENCE OF SPEECH DEFECTS AMONG 258 JUVENILES EXHIBITING ANTISOCIAL AGGRESSIVE BEHAVIOR

| Subjects | Number Tested | Number with Speech Defect | Per Cent of Group with Speech Defect |
|---|---|---|---|
| Boys | | | |
| Negro | 85 | 12 | 14.1 |
| Spanish American | 11 | .. | ... |
| White | 92 | 9 | 9.8 |
| Total | 188 | 21 | 11.2 |
| Girls | | | |
| Negro | 17 | 2 | 11.8 |
| Spanish American | 3 | .. | ... |
| White | 50 | 3 | 6.0 |
| Total | 70 | 5 | 7.1 |
| Total Subjects | | | |
| Negro | 102 | 14 | 13.7 |
| Spanish American | 14 | .. | ... |
| White | 142 | 12 | 8.5 |
| Total | 258 | 26 | 10.1 |

Table III presents a breakdown of the incidence of speech defects by type of defect. Articulation defects were found among 5.4 per cent of the total population. Voice defects were next in prevalence with 3.5 per cent of the population presenting a voice deviation. A speech defect consisting of

both voice and articulation deviations accounted for .8 per cent of the population. One case of stuttering, or .4 per cent of the total population, was identified.

As seen from Table III, 6.4 per cent of all boys screened had difficulty with articulation of speech sounds; 3.2 per

TABLE III

INCIDENCE OF SPEECH DEFECTS BY TYPE OF DEFECT FOUND AMONG JUVENILES EXHIBITING ANTISOCIAL AGGRESSIVE BEHAVIOR

| Speech | Boys | | | Per Cent Among Boys | Girls | | | Per Cent Among Girls | Total of Boys and Girls | | | Per Cent of Total Population |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | W | N | Sp* | | W | N | Sp | | W | N | Sp | |
| Normal Speech | 83 | 73 | 11 | 88.8 | 47 | 15 | 3 | 92.8 | 130 | 88 | 14 | 89.9 |
| Articulation | 4 | 8 | .. | 6.4 | 1 | 1 | .. | 2.9 | 5 | 9 | .. | 5.4 |
| Voice | 4 | 2 | .. | 3.2 | 2 | 1 | .. | 4.3 | 6 | 3 | .. | 3.5 |
| Stuttering | 1 | .. | .. | .5 | .. | .. | .. | ... | 1 | .. | .. | .4 |
| Voice and Articulation | .. | 2 | .. | 1.1 | .. | .. | .. | ... | .. | 2 | .. | .8 |

*"W"--white, "N"--Negro, "Sp"--Spanish American

cent had defects of voice; 1.1 per cent had both voice and articulation problems; and .5 per cent stuttered. Among the girls seen, 4.3 per cent had voice defects; 2.9 per cent had articulation problems. None of the girls were found to have stuttering symptoms or both voice and articulation problems.

The Chi Square Test was applied to investigate the relationship between possession of a speech defect and age of the subject. The results of this test are given in Table IV. Observed and expected frequencies are provided for each age group. No significant difference was found between the age groups, indicating no relationship between age and speech defectiveness.

TABLE IV

CHI SQUARE TEST FOR THE RELATIONSHIP BETWEEN DEFECTIVE SPEECH AND AGE OF JUVENILES EXHIBITING ANTISOCIAL AGGRESSIVE BEHAVIOR*

| | Age | | |
|---|---|---|---|
| | 10-12 | 13-15 | 16-18 |
| Defective Speech | 7 (4.534)** | 9 (13.302) | 10 (8.162) |
| Non-Defective Speech | 38 (40.465) | 123 (118.697) | 71 (72.837) |

*$X^2 = 3.49745$

**Expected frequencies are given in parentheses.

Subjects were grouped according to speech type into three different classifications to facilitate a comparison of ages. The group of subjects classified as having normal speech includes only those juveniles whose speech was both

non-dialectal and non-defective. The dialectal speech group includes those subjects whose speech exhibited only dialect characteristics. Subjects with speech judged as defective were placed in the third group.

A comparison of ages of the normal, dialectal, and speech defective groups is shown in Table V. In both the normal and

TABLE V

COMPARISON OF AGES AMONG JUVENILES WITH NORMAL, DEFECTIVE, AND DIALECTAL SPEECH

| Speech*** | 10-12 Years | | 13-15 Years | | 16-18 Years | | Per Cent of Total (N=258) | |
|---|---|---|---|---|---|---|---|---|
| | n | %* | n | %* | n | %* | Σ n | %** |
| Normal Speech (N=131) | | | | | | | | |
| Male | 14 | 10.7 | 39 | 29.8 | 31 | 23.7 | 84 | 32.6 |
| Female | 2 | 1.5 | 27 | 20.6 | 18 | 13.7 | 47 | 18.2 |
| Total | 16 | 12.2 | 66 | 50.4 | 49 | 37.4 | 131 | 50.8 |
| Defective Speech (N=26) | | | | | | | | |
| Male | 6 | 23.0 | 7 | 26.9 | 8 | 30.8 | 21 | 8.2 |
| Female | 1 | 3.9 | 2 | 7.7 | 2 | 7.7 | 5 | 1.9 |
| Total | 7 | 26.9 | 9 | 34.6 | 10 | 38.5 | 26 | 10.1 |
| Dialectal Speech (N=101) | | | | | | | | |
| Male | 21 | 20.8 | 44 | 43.6 | 18 | 17.8 | 83 | 32.1 |
| Female | 1 | 1.0 | 13 | 12.8 | 4 | 4.0 | 18 | 7.0 |
| Total | 22 | 21.8 | 57 | 56.4 | 22 | 21.8 | 101 | 39.1 |

*Numbers in this column refer to the percentages of the particular speech group indicated.

**Numbers in this column refer to the percentages of the total population, N=258.

***"Normal speech"--non-defective, non-dialectal; "Dialectal speech"--non-defective, with dialect characteristics.

dialectal groups, the greatest per cent of subjects was found in the thirteen to fifteen-year age range. Within the speech defective group, however, the percentages increase with each successive age range, as is shown in Table V. In this group, 26.9 per cent of the subjects were between 10 and 12 years of age; 34.6 per cent of the speech defective group were between 13 and 15 years of age; and 38.5 per cent were between the ages of 16 and 18.

To investigate the relationship between speech defectiveness and type of antisocial aggressive behavior, three different classifications of criminal and civil offenses were considered. The first classification system divided offenses committed by the subjects into direct or nondirect antisocial aggressive behavior. Offenses arbitrarily classified as direct aggression suggest overt defiance and

TABLE VI

CHI SQUARE TEST FOR THE RELATIONSHIP BETWEEN SPEECH DISORDERS AND DIRECT OR NONDIRECT ANTISOCIAL AGGRESSIVE BEHAVIOR*

| | Direct | Nondirect |
|---|---|---|
| Defective Speech | 19 (16.124)** | 7 (9.875) |
| Nondefective Speech | 141 (143.875) | 91 (88.124) |

*$X^2$ = 1.50182

**Expected frequencies are given in parentheses.

hostility on the part of the child. Offenses categorized as nondirect suggest a more secluded, withdrawing type of aggression. A summary of the specific offenses composing each category may be found in Appendix 5. This classification, approved by detention home officials, aimed to provide a different grouping of offenses to determine any possibility of a relationship between defective speech and specific forms of antisocial aggressive behavior. Results of Chi Square analysis of the relationship between speech defectiveness and direct or nondirect antisocial aggressive behavior are given in Table VI. No significant difference was found between the direct and nondirect groups of behavior.

The second classification divided subjects' offenses into felony, misdemeanor, or juvenile offense. The categorization of the various offenses was performed by detention

TABLE VII

CHI SQUARE TEST FOR THE RELATIONSHIP BETWEEN SPEECH DISORDERS AND FELONIES, MISDEMEANORS, AND JUVENILE OFFENSES*

| | Felony | Misdemeanor | Juvenile Offense |
|---|---|---|---|
| Defective Speech | 11 (9.372)** | 2 (3.124) | 13 (13.503) |
| Nondefective Speech | 82 (83.627) | 29 (27.875) | 121 (120.496) |

*$X^2$ = .78511

**Expected frequencies are given in parentheses.

home officials. A summary of the specific offenses composing each category may be found in Appendix 6. Chi Square analysis of the results, shown in Table VII, revealed no significant differences between felonies, misdemeanors, or juvenile offenses and speech defectiveness.

The third classification divides the subjects' offenses into groups or types according to homogeneity of specific

TABLE VIII

COMPARISON OF OFFENSES COMMITTED BY JUVENILES WITH NORMAL, DEFECTIVE, AND DIALECTAL SPEECH

| Speech | Theft and Burglary | | Immorality | | Runaway | | Incorrigibility | | Assault | | Use of Intoxicants | | Malicious Mischief | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | %* | N | %* | N | %* | N | %* | N | %* | N | %* | N | %* |
| Normal (N=131) | | | | | | | | | | | | | | |
| Male | 30 | 22.9 | 4 | 3.1 | 14 | 10.7 | 21 | 16.0 | 7 | 5.3 | 2 | 1.5 | 6 | 4.6 |
| Female | 3 | 2.3 | 2 | 1.5 | 31 | 23.7 | 11 | 8.4 | . | ... | . | ... | . | ... |
| Total | 33 | 25.2 | 6 | 4.6 | 45 | 34.4 | 32 | 24.4 | 7 | 5.3 | 2 | 1.5 | 6 | 4.6 |
| Defective (N=26) | | | | | | | | | | | | | | |
| Male | 9 | 34.6 | 2 | 7.7 | 5 | 19.2 | 3 | 11.5 | . | ... | 2 | 7.7 | . | ... |
| Female | . | ... | . | ... | 1 | 3.9 | 3 | 11.5 | 1 | 3.9 | . | ... | . | ... |
| Total | 9 | 34.6 | 2 | 7.7 | 6 | 23.1 | 6 | 23.0 | 1 | 3.9 | 2 | 7.7 | . | ... |
| Dialectal (N=101) | | | | | | | | | | | | | | |
| Male | 37 | 36.6 | 2 | 2.0 | 15 | 14.9 | 16 | 15.8 | 6 | 5.9 | 2 | 2.0 | 5 | 4.95 |
| Female | 2 | 2.0 | 3 | 2.95 | 6 | 5.9 | 4 | 4.0 | 2 | 2.0 | 1 | 1.0 | . | ... |
| Total | 39 | 38.6 | 5 | 4.95 | 21 | 20.8 | 20 | 19.8 | 8 | 7.9 | 3 | 3.0 | 5 | 4.95 |

* Numbers in this column refer to the percentages of the particular speech group indicated.

offenses. A breakdown of offenses, suggested by officials at the Dallas County Juvenile Detention Home, shows the

specific offenses found within each type and may be found in Appendix 7. A comparison of the normal, dialectal, and defective groups according to type of offense may be seen in Table VIII. Analysis of this table reveals that theft and burglary, runaway, and incorrigibility account for the largest per cent of subjects in all three groups of subjects. Offenses of theft and burglary are the most prevalent of all offenses committed by both the defective and dialectal groups by over ten per cent, but they are second in prevalence among the normal speaking subjects. It may also be noted that the entire speech defective group is void in offenses of malicious mischief. Table VIII also reveals that sex percentages for the third offense, runaway, are reversed in the normal speaking group to what they are in the dialectal and defective groups.

Table IX shows the age, race, sex, and offense of the twenty-six speech defective subjects. Investigation of the table reveals a rather scattered pattern, indicating that no particular grouping seems to emerge among the four variables.

It may be noted that all of the speech defective individuals held for runaway possessed articulation problems, and five of those six were males. All of the speech defective juveniles held for offenses of theft and burglary were male. Table IX also shows that the one speech defective juvenile held for assault was female.

TABLE IX

AGE, RACE, SEX, AND OFFENSE OF SPEECH DEFECTIVE JUVENILES EXHIBITING ANTISOCIAL AGGRESSIVE BEHAVIOR

| | | Articulation | | | Voice | | | Stuttering | | | Voice and Articulation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 to 12 | 13 to 15 | 16 to 18 | 10 to 12 | 13 to 15 | 16 to 18 | 10 to 12 | 13 to 15 | 16 to 18 | 10 to 12 | 13 to 15 | 16 to 18 |
| Theft and Burglary | W** | F* M | 1 | | 1 | | 2 | | 1 | | | | |
| | N | 1 | 1 | | 1 | 1 | | | | | | | |
| Immorality | W | | | | | | | | | | | | |
| | N | | | 1 | | | | | | | | | 1 |
| Runaway | W | | 1 | 1 1 | | | | | | | | | |
| | N | 2 | 1 | | | | | | | | | | |
| Incorrigibility | W | | | | | 1 | 1 | | | | | | |
| | N | | 1 1 | 1 | | | | | | | 1 | | |
| Assault | W | | | | | | | | | | | | |
| | N | | | | 1 | | | | | | | | |
| Use of Intoxicants | W | | | 1 | | | 1 | | | | | | |
| | N | | | | | | | | | | | | |
| Malicious Mischief | W | | | | | | | | | | | | |
| | N | | | | | | | | | | | | |
| Total | | 3 | 5 1 | 4 1 | 2 1 | 1 1 | 3 1 | | 1 | | 1 | | 1 |

*"F"--female, represented in the upper right corner of the slashed squares; "M"--male, represented in the lower left corner of the slashed squares.

**"W"--white; "N"--Negro

Table IX reveals that the subjects with articulatory errors tended to group in the middle and upper age ranges. Only three juveniles with this speech defect were between the ages of ten and twelve. Six of the subjects with articulation defects were between the ages of thirteen and fifteen, and the other five were between sixteen and eighteen years of age.

# CHAPTER IV

## SUMMARY, DISCUSSION, AND CONCLUSIONS

The purpose of this thesis was to determine the incidence of speech defects among a group of juveniles exhibiting antisocial aggressive behavior. Two hundred fifty-eight subjects were randomly chosen from a group of juveniles held in detention during a two-month period at the Dallas County Juvenile Detention Home, Dallas, Texas. All subjects in residence at the home exhibited antisocial aggressive behavior in the form of a civil or criminal violation of law.

Three measures of speech and language were obtained from each child. These measures included the Clark Picture Phonetic Inventory, the Leavell Analytical Oral Reading Test, Form A, and a sample of spontaneous conversational speech.

Defective speech was identified in 26 subjects, composing 10.1 per cent of the total population. White subjects had an incidence of speech defects of 8.5 per cent; Negro subjects had an incidence of 13.7 per cent. The Spanish American group was found to be void of speech defects. Speech defects were found among 7.1 per cent of the girls tested and 11.2 per cent of the boys tested. Articulation defects were the most prevalent, followed by defective voice, both defective voice and defective articulation, and stuttering.

Chi Square analysis of the results showed no significant relationship between speech defectiveness and age or type of antisocial aggressive behavior.

## Discussion

The incidence of 10.1 per cent speech defectiveness among the population studied is a greater incidence than was expected. This figure agrees with the incidence Mills and Streit (4) identified in the public schools of Massachusetts. The 10 per cent figure is greater, however, than the 5 per cent of the Midcentury White House Conference on Children and Youth most frequently quoted for the general population (1).

The three social-cultural groups--white, Negro, and Spanish American--presented considerably different rates of speech defectiveness. Of the Negroes tested, 13.7 per cent had speech defects, compared to 8.5 per cent defectiveness among white subjects. Spanish American subjects were void of any speech defects, although it must be considered that only fourteen Spanish Americans were tested.

Boys, both Negro and white, showed a greater incidence of speech defectiveness than girls. Boys in the general population also show a greater incidence of speech defectiveness than do girls. Berry and Eisenson pointed out that speech defective boys outnumber speech defective girls in ". . . all age groups, and for most defects of speech" (3,

p. 3). However, it must also be recognized that a very limited number of girls were available for this study.

Articulation errors were the most prevalent among the speech defective group, as Table III shows. This finding agrees with those usually found in the general population. The Midcentury White House Conference on Children and Youth (1) noted that articulation problems accounted for 3 per cent of the total 5 per cent defectiveness among school age children. An unexpected result is the increase of articulation defects among older juvenile offenders. Table IX shows that only three subjects having articulation errors were in the ten to twelve year range. Six subjects were in the thirteen to fifteen year range, and five subjects with defective articulation were in the sixteen to eighteen year age range.

Table III notes that 3.5 per cent of the total population had voice defects. This high incidence might be partially explained by the fact that it was difficult to distinguish temporary defects from chronic voice disorders. Judgment of the voice was made upon only one interview with the subject because of the high turnover rate at the detention home. Thus it was possible that some of the cases identified were not chronic voice disorders.

Tables VI and VII indicate that no relationship exists between the possession of a speech defect and the particular type of offense committed by the subject. It is possible,

however, that some significant information was lost because of the necessity for the reduction of specific offenses to broad categories. For that reason Tables VIII and IX were utilized to provide more specific information about offenses.

Table VIII shows that theft and burglary, runaway, and incorrigibility were the most common offenses for normal, defective, and dialectal speakers, both male and female. There seems to be no common factor among these three offenses to explain their incidence. Thefts and burglaries are classified as felonies, and the other two are considered juvenile offenses. Runaway is considered a nondirect form of antisocial aggressive behavior, while theft and burglary and incorrigibility are considered direct expressions of aggression.

A careful analysis of the runaway category in Table VIII shows that females are the major offenders among those with normal speech. However, males are the major offenders of runaway among those with defective speech and speech characterized by dialect.

Table IV indicates that no statistically significant relationship exists between speech defectiveness and age of the subject. Table V, however, reveals a notable comparison of the ages of speech defective subjects to normal and dialectal speaking subjects. In both the normal and dialectal groups, the largest concentration of subjects was at the middle age range, thirteen to fifteen years. Investigation

of the speech defective group shows a progressive increase in concentration of subjects from the lowest to the highest age range. From 10 to 12 years of age, 26.9 per cent of the speech defective group were included, 34.6 per cent of this group fell between the ages of 13 and 15, and 38.5 per cent were found in the 16 to 18 year range. This concentration of speech defects among older children seems contrary to that usually found in the general population. In the previously reviewed study by Baynes (2), the highest incidence of chronic hoarseness among elementary children in Michigan was among first grade children. The Midcentury White House Conference on Children and Youth (1) indicated that the greatest concentration of speech defective school-age children was in the first six primary grades. The progressive increase of speech defects found in this study might suggest a greater tendency with age toward antisocial aggressive behavior in a child with defective speech.

## Conclusions

The following conclusions were drawn from the results of this study:

1. There is a greater incidence of speech defects among juveniles exhibiting antisocial aggressive behavior than among the general population.

2. Speech defects may be found more frequently among Negro than white juveniles exhibiting antisocial aggressive behavior.

3. The proportionately higher number of speech defective males than females found in the general population may also be expected among juveniles exhibiting antisocial aggressive behavior.

4. Speech defects are more likely to occur among older than younger juveniles exhibiting antisocial aggressive behavior in the population of this study.

5. The type of antisocial aggressive behavior committed by a speech defective individual cannot be accurately predicted utilizing the procedures and techniques employed in this thesis.

## CHAPTER BIBLIOGRAPHY


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3. Berry, Mildred and Jon Eisenson, Speech Disorders, New York, Appleton-Century-Crofts, Inc., 1956.

4. Mills, Alice W. and Helen Streit, "Report of a Speech Survey, Holyoke, Massachusetts," Journal of Speech Disorders, VII (June, 1942), 161-167.

APPENDIX 1

SPECIFIC FEATURES OF SUBSTANDARD SOUTHERN NEGRO SPEECH

The following material is taken from
Wise, Claude Merton, Applied Phonetics, Englewood Cliffs, N. J., Prentice-Hall, Inc., 1957, 299-300.

/our, oə; ɔ, ɔə/ ~ /o/ in words (and derivatives) spelled ore, oor, our, as in store /sto/, door /do/, four /fo/. /ou/ is also used.

/ur, uə/ ~ /o/ in words spelled our, ure, such as your /jo/, sure /ʃo/. /OU/ is also known. . . .

/ʌ/ ~ /ɑ/ in hungry /'hɑŋgrɪ/.

/ʌ/ spelled with o before v ~ /ɪ/, as in cover /'kɪvə/, discover /dɪs'kɪvə/. . . .

/θ, ð/ ~ /t, d/ respectively, as in thing /tɪŋ/, this /dɪs/, that, these, those, them, they, with, and in a few other familiar words. . . .

Final /θ, ð/ frequently ~ /f, v/ respectively, as in both /bouf/, breathe /briv/.

The prefix un ~ /ʌn/, as in unhappy /ʌn'hæpɪ/, until /ʌn'tɛl/.

/ɛ/ before /d/ ~ /eɪ/, as in head /heɪd/. . . .

/ɛ/ before /r/ ~ /æ/, as in there /dæ(ə)/. where /mæ(ə)/, terrapin /'tæ(ə)pɪn/. . . . There is also /da:/, and where /ma:, mʌ/.

/ɔ/ in orn spellings ~ /ɔu/, as born /bɔun/.

/ɑɪ/ before /r/ ~ /d/, as in fire (d) /fɑ/, tire /tɑ:/. . . . These words are also pronounced with /ɑ/.

Yes and no come in for particular consideration. Either one, standing alone, may be perfectly normal or may take on any of the modifications known the country over; but they may also take the special pronunciations /jeɪs/ and /nɔ/. The combinations yes sir and yes ma'am are likely to be

heard /'jæs:ə, 'jɔsə /, /'jæsəm, 'jɔsəm/. No sir and no ma'am are likely to be heard as /'nɔ:sə/ and /noum/.

/n/ finally ~ /m/ in a number of words where it cannot be accounted for by assimilation, as in rosin /'rɔzəm/, telephone /'tɛlə,foum /. . . .

/r/ is lost from the initial clusters /θ r, pr/, as throw /θo, θou/, present /pə'zɪnt, pə'zɛnt /....

Lost word elements. The lack of visual word images on the part of illiterate speakers, the former lack of any feeling of need for accuracy, and the uncorrected mishearing of words pronounced by other people have resulted in the loss of many of the syllable of words in standard pronunciation.

The loss of medial syllables or parts of syllables. Almost any medial syllable faces the liklihood of being dropped or contracted to /ə/ or to a component consonant. Apparently the only retarding factors are the necessity for retaining the intelligibility of the word and for keeping the reduced word in a form convenient for pronunciation . . .

The omission of final syllables is mainly limited to certain words ending in ow, such as barrow pit /'ba:pɪt/ . . . Some other final syllables are reduced, with accompanying assimilation, to syllabic /m, n, ŋ /, as in eleven /'lɛbm̩/. . . .

The combining of syllables. Syllables are combined by dropping the vowel of a syllable and incorporating the consonant or consonants into the succeeding syllable, as in below /blou/, believe /bliv /. . . .

The combining of words through loss of consonants. In fluent speech, the initial consonant of a word is very often lost in the process of coalescing the word with the previous word. . . .

Miscellaneous instances of raising before front consonants: deaf /dɛf /~/dif/ . . . can /Kæn/~/KIn/. . . .

## APPENDIX 2

## SPANISH DIALECT

The following material is taken from
Wise, Claude Merton, Applied Phonetics, Englewood Cliffs, N. J., Prentice-Hall, Inc., 1957, 467-470.

1. Sounds of Spanish which are similar to English sounds and which will be substituted for the corresponding English sounds:

a. /e/ for /eɪ/. Spanish /e/ is pure, not diphthongal as in English. It will suggest /ɛ/ to English ears.

b. /o/ for /oʊ/. Spanish /o/ is pure, not diphthongal as in English. It will suggest /ɔ/ to English ears.

c. Unaspirated /t̪'/ for English aspirated /tʰ/. The Spanish sound, moreover, is dental, spoken with the tongue against the upper teeth, rather than against the gum ridge. Since it is unaspirated, it will suggest /d/.

d. Clear /l̪/ for the English dark /ɫ/.

e. Unaspirated /kˀ/ for English aspirated /kʰ/. It will suggest /g/ to English ears.

f. Unaspirated /pˀ/ for English /pʰ/. The Spanish /pˀ/ very frequently may suggest /b/.

g. /r̆/ for English /r/. The Spanish /r̆/ is trilled more often than not. When final, it may modulate into voiceless /r r̥/, and so resemble something like the English /r/ plus /ç/, thus /rç/, as in ir /irç/.

2. English sounds which do not occur in Spanish:

a. /ɪ/, which may be replaced by /i/, as in it is this /it is ˈðis/. Though the Spanish has a low /i/ which is close to English /ɪ/, it is still a combinative variant of the phoneme /i/, and is to the speaker of Spanish non-distinctive, and unlikely to be used consistently for English /ɪ/. . . .

b. /æ/, which may be replaced by the Spanish /a/. . . .

c. /ʊ/, which may be replaced by /u/. . . .

d. /ʌ/, which is replaced by any low back vowel, usually /ɑ/. . . .

e. /ɜ/, /ɚ/ (when a pronunciation of vowel plus r, as in summer), /ɝ/, and /ə/, for which the substitution is very uncertain . . . Those who try to imitate the sound as heard are likely to use /ɛr/, with, of course, the trilled /r/.

f. /ð/, which occurs in Spanish, but not initially, so that in this, that, etc., it is often replaced by /d/. . . .
g. /θ/ does not occur in Mexican or most other colonial Spanish. It is usually replaced by /s/. . . .
h. /h/, which may be replaced by /x/, or left silent, as it would be in Spanish. . . .
i. /ʃ/, which may be replaced by /s/, but which is usually so quickly learned as not to appear in dialect writing. The fact that /ʃ/ occurs in the Spanish affricate /tʃ/ facilitates its being separately learned. However, /ʃ/ may be confused with /tʃ/ and replaced by it. . . .
j. /ʒ/, which may be replaced by /ʃ/ or /tʃ/. . . .
k. /dʒ/, which may be replaced by /tʃ/.
l. /ʍ/, which may be replaced by /w/. . . .

3. Special contexts of Spanish, which, when they occur in English, will produce un-English sounds:

a. /ŋ/ occurs in Spanish, but always as a member of the phoneme /n/, when n is followed by /k/ or /g/. . . .
b. b is occlusive in Spanish, i.e., like the English /b/, only initially after a pause, or in the interior of a word preceded by a nasal. Everywhere else in Spanish, b is the fricative /β/.
c. v is treated exactly like b. Initially after a pause, or preceded by a nasal, it is /b/. Elsewhere it is /β/. . . .
d. Final m is sometimes /n/ in Spanish. . . .
e. s before a voiced consonant becomes /z/ in Spanish, despite the fact that there is no /z/-phoneme in the language. . . .
f. d initial after a pause or preceded by n or l is pronounced d. Elsewhere it is fricative. . . .
g. g before a consonant, or before a, o, or u, when initial after a pause or preceded by n, is pronounced /g/. Elsewhere, except before e or i, it is the fricative /ɣ/.
. . . . . .

5. . . . Every syllable is carefully spoken, with an individual attention which, if the consonants were not so languid, would produce almost a staccato effect. There is some unstressing of vowels in unaccented syllables, but even so, each vowel retains its identity. . . .

6. . . . the speaker of Spanish will prefix e to English words, thus: scold escold. . . .

## APPENDIX 3

SOUNDS TESTED AND STIMULUS WORDS REPRESENTED IN PICTURES AS USED ON THE CLARK PICTURE PHONETIC INVENTORY

| | | | |
|---|---|---|---|
| /p/ | pencil | puppy | pipe |
| /b/ | bell | baby | bath tub |
| /m/ | mouse | mamma<br>*hammer | drum |
| /hw/ | whistle | steering wheel | |
| /w/ | window | wigwam<br>*sandwich | |
| /f/ | foot | telephone | knife |
| /v/ | violin<br>*vacuum cleaner | overalls<br>*television | stove |
| /θ/ | thumb | birthday cake | mouth |
| /t/ | tie | potato | kite |
| /d/ | duck | indian | bed |
| /n/ | nail | penny | sun |
| /l/ | leaf | balloons | ball |
| /r/ | rake | carrot | ear |
| /s/ | santa claus | bicycle | glass |
| /z/ | zipper | scissors | nose |
| /ʃ/ | sheep | washing machine | fish |
| /ʒ/ | | treasure chest | |

*Stimulus word used instead of word directly above

| | | | |
|---|---|---|---|
| /t/ | chicken | matches | watch |
| /d/ | jumping | soldier | cage |
| /k/ | cat | monkey | book |
| /g/ | goat | wagon | pig |
| /ŋ/ | | ink | king |
| /h/ | horse | | |
| /j/ | yo-yo | onion | |
| /i/ | tree | | |
| /ɪ/ | pumpkin | | |
| /ɛ/ | tent | | |
| /ɛ:/ | chair | | |
| /æ/ | hand | | |
| /ʌ/ | cup | | |
| /ɜ/ | girl | | |
| /ə/ | banana | | |
| /u/ | broom | | |
| /ʊ/ | football | | |
| /ɔ/ | corn | | |
| /ɑ/ | arm | | |
| /eɪ/ | gate | | |
| /əɪ/ | pie | | |
| /oʊ/ | coat | | |
| /ɑʊ/ | house | | |
| /ɔɪ/ | boy | | |
| /ju/ | music | | |
| /bl/ | blackbird | | |

| | | | |
|---|---|---|---|
| /kl/ | clown | /sk/ | skate |
| /fl/ | flag | /skr/ | scrub |
| /gl/ | glove | /sm/ | smoke |
| /pl/ | plate | /sn/ | snowman |
| /sl/ | sled<br>*slide | /sp/ | spoon |
| /br/ | toothbrush | /spl/ | splash |
| /kr/ | crown | /spr/ | sprinkle |
| /dr/ | dress | /st/ | star |
| /fr/ | frog | /str/ | streetcar<br>*string |
| /gr/ | grapes | /sw/ | swing |
| /pr/ | apron | /skw/ | squirrel |
| /tr/ | train | /kw/ | queen |
| /θr/ | thread | /ks/ | six books |

* Stimulus word used instead of word directly above

## APPENDIX 4

### LEAVELL ANALYTICAL ORAL READING TEST

### Form A

Bill had a horse.
She was a baby horse.
Her name was Star.
Star was a brown and white horse.
She liked to run and she liked to play.
Bill wanted to ride Star.
But she was not very big.

---

One day Bill went to his father. He said, "I want to ride Star." His father said, "You can ride her as soon as she is trained." Bill was very excited. He wanted to learn to ride his lively horse.

---

Star's parents were race horses. They had won many races for Bill's father and had made him very wealthy. Everyone thought that Star would be a race horse also. Even as a young horse she could run around the field very quickly.

---

After a while Bill's father hired the best trainer he could find. Bill was allowed to ride the horse on her daily workouts. But he could not ride her on long trips or on picnics in the near-by woods. Star was being groomed to be a race horse and she was expected to be very good.

---

Star was a thoroughbred mare for whom her owner had high expectations. Bill, the owner's young son, also hoped that Star would establish new racing records. After several months of training, Star was entered in her first race, and a famous jockey was hired to ride her. This jockey rode many horses from that stable and brought home many victories.

---

When the actual day of the race arrived, Bill was extremely excited and nervous. While he anxiously awaited the moment when the race would begin, Bill enjoyed watching crowds surge through the gates. Although he had witnessed races on many occasions, it still was thrilling to him.

---

Finally it was practically time for the occurrence of the important event. However, in the stall where Star was kept, tremendous confusion existed, because the jockey had disappeared. Since no apprentice jockey could be located

on such short notice, it appeared certain that Star would be unable to run in the race.

---

As an announcer grasped the microphone to acquaint the audience with the recent tragedy, he spied a teen-age youngster clad in the gaily tinted silks of racing fashion. Official information soon forth-coming confirmed his suspicion that Master Bill was riding Star in the race. Appearing handsome although somewhat frightened, Bill mounted his steed and galloped to the starting post.

---

Amidst enthusiastic, exuberant cheering, fourteen steeds galloped down the track with Star against the rail in sixth position. To all appearances the favorite mare was ahead by a length, but at the turn it stumbled, lost its pace and Star gained advantageously. Although an insecure amateur, Bill acquired courage and confidence as the opportunity to succeed grew stronger; and eventually he emerged victoriously, the winner by a nose.

## APPENDIX 5

### CLASSIFICATION OF OFFENSES INTO DIRECT OR NONDIRECT AGGRESSION

| Direct | Nondirect |
|---|---|
| Affray | Homosexual |
| Aggravated assault | Loitering |
| Assault | Minor consumption |
| Arson | Morals |
| Auto theft | Runaway |
| Bike theft | Sodomy |
| Breaking and entering coin-operated machine | Truancy |
| Breaking and entering motor vehicle | Vagrancy |
| Burglary | Violation of parole of probation |
| Destroying private property | |
| Disturbing the peace | |
| Driving while intoxicated | |
| Drunk and disorderly | |
| Fondling | |
| Forgery | |
| Incorrigible | |
| Murder | |
| Rape | |
| Robbery | |
| Shoplifting | |
| Theft | |
| Trespassing | |
| Vandalism | |

## APPENDIX 6

## CLASSIFICATION OF OFFENSES INTO FELONY, MISDEMEANOR, OR JUVENILE OFFENSE

### Felony

Arson
Auto theft
Bike theft
Breaking and entering a motor vehicle
Breaking and entering a coin-operated machine
Burglary
Fondling
Forgery
Homosexual
Murder
Rape
Robbery
Sodomy
Theft

### Misdemeanor

Affray
Aggravated assault
Assault
Destroying private property
Disturbing the peace
Driving while intoxicated
Drunk and disorderly
Loitering
Shoplifting
Trespassing
Vagrancy
Vandalism

### Juvenile Offense

Incorrigible
Minor consumption
Morals
Runaway
Truancy
Violation of parole or probation

## APPENDIX 7

## CLASSIFICATION OF OFFENSES INTO HOMOGENEOUS TYPES

Type I -- Theft and Burglary

- Auto theft
- Bike theft
- Breaking and entering coin-operated machine
- Breaking and entering motor vehicle
- Burglary
- Forgery
- Robbery
- Shoplifting
- Theft

Type II -- Immorality

- Fondling
- Homosexual
- Morals
- Rape
- Sodomy

Type III -- Runaway

Type IV -- Incorrigibility

- Incorrigible
- Loitering
- Trespassing
- Truancy
- Vagrancy
- Violation of parole or probation

Type V -- Assault

- Affray
- Aggravated assault
- Assault
- Disturbing the peace
- Murder

Type VI -- Use of Intoxicants

- Drunk and disorderly
- Driving while intoxicated
- Minor consumption

Type VII -- Malicious Mischief

- Arson
- Destroying private property
- Vandalism

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