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PSYCHOLOGICAL CONCOMITANTS OF ENURESIS NOCTURNA BEFORE AND AFTER CONDITIONING TREATMENT

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PSYCHOLOGICAL CONCOMITANTS OF ENURESIS NOCTURNA

BEFORE AND AFTER CONDITIONING TREATMENT

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

Historical Background of Problem

Nocturnal enuresis is usually defined as the involuntary discharge of urine during sleep after the age of three to four years in the absence of demonstrable organic pathology (Lovibond, 1964).

Enuresis has been one of the most annoying yet least understood disturbances of childhood since ancient times (Glicklich, 1951). It is estimated that no fewer than 10 to 15 percent of all children between the four to fourteen age range are persistent bedwetters (Baller and Schalock, 1956). Over the centuries unsystematic approaches to the problem have included superstitious remedies (Roach, 1969), exorcism (Bakwin, 1961), and primitive medicines (Ruhrah, 1925). Systematic or theoretical approaches to the problem became apparent by the nineteenth century with the establishment of pediatrics as a speciality. The literature of the day became replete with articles on enuresis in children, the greatest bulk of such literature appearing after the mid-century. There was, it was thought, a familial tendency toward this disorder, and members of the same family were often subject to this complaint. This tendency was labeled by some as congenital enuresis (Glicklich, 1951).

Although the literature and research on the subject is now vast, there are numerous theoretical explanations given concerning the etiology and efficacy of various therapeutic approaches. The nineteenth century medical model, providing an organic approach to enuresis, was followed by intra-psychic theories from the early twentieth century suggesting underlying emotional disturbances which in turn were followed by the social learning theories such as the habit deficiency model of Mowrer (1938). These are the three major theoretical models currently utilized to research and treat enuresis.

Predisposing organic factors, according to the research literature, account for approximately 5 to 13 percent of the enuretic population (Stockwell and Smith, 1940; Glicklich, 1951; Pierce and Lipcon, 1959; Bakwin, 1961; Bostock, 1962; Agarwal, Mohan and Mukerji, 1967; Roach, 1969). Since the theoretical framework of this research will be the habit deficiency model, this automatically excludes subjects with organic deficiencies.

At this point it is important to make a distinction between the two remaining major theories concerning the etiology of enuresis. The intrapsychic theory, including the Freudian psychoanalytic model and neo-Freudian models, maintains that enuresis is a symptom of underlying emotional disturbance. There is a multitude of explanations for the occurrence of this particular symptom, some of which are the following: a desire to return to babyhood and the diaper stage (Bandomin, 1928); a dream substitute (Roach, 1969); in females an expression of the castration complex with urinating as an outlet for unconscious desires for masculinity (Glicklich, 1951); a demand for love (Inhof, 1957); aggression and

hostility, a symbolization of ejaculation in males; passivity in males to avoid the masculine role; substitute for masturbation; means of attention getting (Sperling, 1965).

According to the intrapsychic theorists, a psychotherapeutic treatment process is usually required to eliminate the symptom. If the symptom were directly treated rather than the underlying process, symptom substitution would be expected to occur (Sperling, 1965). The research literature, however, indicates that with direct conditioning methods of treating enuresis, in no case has there been evidence of symptom substitution (Mowrer, 1950; Gillison and Skinner, 1951; Geppert, 1953; Baller and Schalock, 1956; Lovibond, 1964; Agarwal, Mohan and Mukerji, 1967; Baker, 1969). In addition to the finding of no symptom substitution, there is the further finding that only in a small minority of cases does enuresis represent a disruption of normal habit patterns as a consequence of severe psychological stress. It is considered that in the great majority of cases enuresis exists as a relatively isolated habit pattern which is not significant of generalized psychological disturbance, but which can be related to secondary emotional disturbance (Tapia, Jekel, and Domke, 1960; Lovibond, 1964; Roach, 1969).

Possibly Mowrer (1938) is the best known exponent of the point of view that in the majority of cases enuresis may be regarded as a simple habit deficiency. According to Mowrer, "There is a relatively large group of enuretic children in whom faulty habit training is the predominant, perhaps exclusive, causal factor" (Lovibond, 1964). In 1964, Lovibond published his theoretical model of habit deficiency as an approach to studying the etiology of enuresis. The habit deficiency model simply

states that enuresis is the result of faulty learning. This faulty learning is defined as a lack of association between bladder stimulation and the toilet response which leads to bedwetting (Mowrer, 1938; Morgan and Witmer, 1939; Crosby, 1950). The emphasis of this research is not on how the faulty learning takes place, but rather on the changes, if any, in self-concept which occur as a result of the particular conditioning treatment.

Lovibond utilized a refined model of the Mowrer direct conditioning apparatus which makes use of a urine-sensitive pad which, when wet, triggers a relay circuit with an electric bell. The bell awakens the child and alerts the parent or attendant. This method has been reported to be the most successful single treatment method at present (Werry and Cohrssen, 1965; Bakwin, 1966; Baker, 1969). Past reviews of the literature have indicated that approximately 90 percent of those treated are initially successful (Jones, 1960; Lovibond, 1964; Young, 1965). Sloop, 1968, concluded that research published prior to 1965 yields an initial mean success ratio of slightly more than 84 percent.

Statement of Problem

The purpose of this study is to assess possible positive changes in certain self-concept characteristics of enuretic children as a result of a direct conditioning method of treatment.

According to Carl Rogers, the self-concept is defined as a differentiated portion of the phenomenal field and consists of a pattern of conscious perceptions and values of the "I" or "Me." One of the properties of the self-concept is that the self may change as a result of learning

(Hall and Lindzey, 1967). The habit deficiency model predicts that as changes occur in behavior, changes in the self-concept will occur (Lovibond, 1964). The self-concept characteristics pertinent to this research were measured by the Social Schema Test (Kuethe, 1962), the Early School Personality Questionnaire (Coan and Cattell, 1960) and the Behavioral Rating Scale (Olson, 1930). Positive and negative changes in self-concept are operationally defined as differences between pre-test and post-test scores on these tests.

These three tests are similar to those used by phenomenologists in assessing the self-concept (Hall and Lindzey, 1970). The Social Schema Test attempts to measure the person's approach and avoidance tendencies toward significant others (mother, father, male peer, female peer). Rogers theorizes that part of the developing self-concept is attributable to an approach toward positively valued experiences or significant others, and an avoidance of negatively valued experiences or significant others (Millen, 1967). The Early School Personality Questionnaire is a self-report questionnaire similar to the Q-sort used frequently by Rogers in that the reference point is the self (Hall and Lindzey, 1970). In order to assess changes in general behavior, the Behavioral Rating Scale was selected. According to self-theory, as changes occur in the perception of self and in the perception of reality, changes occur in behavior. Observations of behavior have been used to help assess changes in the self-concept (Southwell and Merbaum, 1967). The Social Schema Test was chosen as a projective measure, the Early School Personality Questionnaire as an objective measure and the Behavioral Rating Scale as a report of general behavior as perceived by the parents. A detailed description of

these tests can be found in the procedure chapter under the heading of Apparatus and Tests.

The general behavioral changes described in the early research with direct conditioning techniques were largely assessed by the empirical method. Mowrer (1950), along with Morgan and Witmer (1939), Geppert (1953), and Baller and Schalock (1956), states that personality changes, when any have occurred, have uniformly been in a favorable direction. Some of the areas of improvement noted were in interpersonal relationships, self-confidence, general disposition, and mental outlook. Parents in the Dibden and Holmes study (1955) and in the Bostock study (1962) reported that their children became more confident and happier following successful treatment of enuretic problems with the direct conditioning method. Behrle, Laybourne, and Elkin (1956) as well as Biering and Jespersen (1959) studied both the psychological and therapeutic effects of the Mowrer instrument using a battery of personality tests including the Rorschach and the TAT. They reported that at least a substantial majority of their cases evidenced an improvement in general adjustment following successful treatment.

Lovibond (1964) maintains that in none of the previous research had the personality changes of the enuretic group been compared with those of a control group. He also indicated that the great majority of enuretics whose behavior has been observed was selected through the medium of clinics or institutions and points out the likelihood that they represent a group considerably more maladjusted than the general population of enuretics. In addition, Lovibond suggests that ideally an investigation of effects following conditioning treatment should make use of an experimental group

of enuretics with a restricted range of adjustment close to the population average. This would assure that any possible undesirable effects of the treatment would not be offset by positive changes occurring "spontaneously" or as the result of unknown influences. The personality changes should then be compared with those of an untreated control group of enuretics matched with the experimental group in terms of adjustment scores. He found, however, that obtaining such a control group was too difficult to be practical so he proceeded to use a non-enuretic control group comparable in adjustment.

Using the specific habit deficiency theory, Lovibond hypothesized that his enuretic population would differ in primary emotional disturbance from the non-enuretic population only minimally, if at all. In addition, the specific habit deficiency theory of enuresis predicts that enuretics will be differentiated from non-enuretics in secondary emotional disturbance or reactive maladjustment. Reactive maladjustment is a secondary effect of enuresis which is likely to take the form of a general lack of self-confidence or feeling of inferiority rather than deep-seated emotional disturbance, and is likely to be ameliorated by cessation of the enuresis.

Six tests were chosen for the Lovibond research which met the criteria of objective scoring, with at least tentative norms, a reasonable degree of reliability and validity, and including both direct and indirect techniques with observation provided by the child, parent, and teacher. These tests included: a Social Under-Valuation Test used with children to measure areas of conscious conflict; the Neurotic Inventory to measure areas of unconscious conflict; a Behavior Rating Scale to be filled out by the parents; an Extroversion Scale to check out Eysenck's hypothesis

that enuretics are more extroverted, thus possessing a poor level of conditionability; the Behavior Problem Record as a second measure of general adjustment; the Movie Story Test, a projective technique which involves telling the story of "home movies" utilizing specified social relationships.

The test battery was given to thirty persistent enuretics and thirty non-enuretic controls from eight to twelve years of age. The enuretics were obtained by incidental sampling among acquaintances of Psychology I students. The non-enuretics were from a large primary school and were matched with the enuretic group on age, sex, socio-economic levels, and class in school. Twenty-five matched pairs were available for re-testing after the enuretic group had experienced the conditioning treatment. Although twelve of the enuretic group were re-tested at three months after treatment, and although thirteen were re-tested at twelve to eighteen months because of a relapse and further treatment, there were no significant differences between these test scores due to differential time lapse. Only the three children's self-report scales were administered on the second occasion, i.e., the Social Under-Valuation Test, the Neurotic Inventory, and the Movie Story Test.

In a comparison of the pre-test scores, Lovibond found that the scores of the two groups do not differ significantly on any single pre-test. However, the whole pattern of pre-test scores is consistent with the hypothesis that the enuretics differ from the non-enuretics only in the degree of reactive maladjustment present. The mean post-test scores of the non-enuretics are virtually identical with their pre-test mean scores; however, there is a significant reduction in the post-test scores of the enuretics on all their tests. Lovibond attributes the reduction

of the enuretics' post-test scores to a level well below that of the control group to a "generalized euphoria." This condition seems to follow successful treatment and is reported by mothers as a marked increase in self-confidence.

Similar findings are reported by Baker (1969) who compared conditioning techniques with methods devised to duplicate its motivational aspects such as attention from the examiner and placement of the machine in the home. Enuretics and controls did not differ significantly on pre-test self-report scales or teacher ratings, nor on the Draw-A-Person or Draw-A-Family tests. Parent's observations following successful treatment frequently mentioned the child's increased happiness, becoming more autonomous, and taking responsibility. There were suggestions that the successful treatment may have had beneficial effects on the parent-child relationship or at least the child's perception of this relationship. Important to this current study is the finding that the drawing showed a dramatic improvement in what might be termed "self-image."

Although Lovibond and Baker's research was not designed to assess changes in the self-concept, such changes have been clearly evinced as a by-product of the direct conditioning method. In effect, when the S's experienced positive results with enuretic treatment, his self-concept was altered favorably. These procedures and techniques have paved the way for a better assessment of changes in the self-concept.

Lovibond and Baker attempted to control for variables ignored in the earlier research; however, further research has illuminated the need for closer controls than what they were able to achieve. One such control involves a further differentiation of enuretics. Novick (1966) differentiates

them as persistent and acquired enuretics, and explains that persistent enuretics are those who have wet since birth while acquired enuretics are those who have started to wet after a period of continence. The persistent type also happen to represent the large majority of enuretics (Bakwin, 1961; Ritvo, Ornitz, Gottlieb, Poussaint, Maron, Ditman, and Blinn, 1969). Collison (1970) further contrasts persistent from acquired enuretics by pointing out in his work and from the literature that when a continent child begins to wet, the cause is nearly always psychological and environmental factors. Persistent enuresis is more likely to be due to inadequate training or failure of normal maturational development. Novick (1966) reported that the acquired enuretics had significantly more deteriorated areas of general behavior reported by their mothers than did the persistent. The acquired enuretics did respond more favorably to psychotherapeutic or supportive treatment alone, wet less frequently, reach criterion of success more quickly, but regressed more frequently and evidenced more disturbance after treatment.

In summary, the persistent enuretics were selected for the present study because they are most representative in number, less grossly disturbed, and better fit the habit deficiency model. This research also includes a control group of enuretics whereas previous research utilized non-enuretics as controls. A placebo treatment was given to the control group which duplicated the parental attention of the treatment groups and also provided for placement of the equipment in the home. All tests were given before and after treatment. Lovibond only repeated the children's self report scales. Our subjects resembled those of the Lovibond and Baker studies in that they were not from a clinic population.

In addition, two distinct treatment methods were used, and the effectiveness of each was evaluated in another study (Besserman, 1973). Besserman pointed out that there is a rather high relapse rate in bed wetting of Ss who have received this conditioning treatment. It was hypothesized that an intermittent negative stimulus (70 percent) would inhibit the relapse rate. Besserman compared the relapse rates and other parameters of the treatment for the three groups, continuous, intermittent and control. The continuous and intermittent groups did not differ significantly in reaching criterion for dry. However, the relapse rate was significantly greater for the continuous group. The control group showed no improvement across the six weeks of treatment.

Statement of Research Hypothesis

This research is designed to test Lovibond's interpretation of his empirical findings that when enuresis is successfully treated, Ss show significant improvement in areas of reactive maladjustment. Specifically, Lovibond referred to improvement in self-confidence or, more generally, self-concept.

Hypotheses

1. Both the intermittent and continuous groups will show significantly more improvement in all test scores after treatment than will the control (placebo) group. (See procedure.)

2. There will be no significant differences between the continuous and intermittent groups on pre- and post-test scores.

3. Social distance between S-mother, S-father, S-female peer, S-male peer as measured by the Social Schema Test (SST) will be altered following successful treatment.

    a. The horizontal distance will be significantly reduced reflecting a tendency to approach rather than to avoid.

b. The vertical distance will be significantly changed with the S's tendency to place himself in a more dominant position vertically, reflecting the S's tendency to be less submissive and more assertive.

4. There will be significant positive changes in four scales of the Early School Personality Questionnaire (ESPQ) for successfully treated Ss.

   a. Factor C.--The Ss will become more Emotionally Stable and less Affected by Feelings.

   b. Factor F.--The Ss will become more Happy-Go-Lucky and less Sober.

   c. Factor H.--The Ss will become more Venturesome and less Shy.

   d. Factor O.--The Ss will become more Placid and less Apprehensive.

5. Maladjustment scores on the Behavioral Rating Scale (BRS) of successfully treated subjects will show improvement by a significant decrease in total test score.

CHAPTER II

METHODOLOGY

This research was done in conjunction with a field study which was designed to refine the conditioning methodology in the treatment of enuresis. The field study will be described in the procedure section of this chapter. The requirements of these two studies impose some restrictions upon the designs of each, which will be explained in the procedure as they occur. Equipment and facilities of Children's Medical Center in Tulsa, Oklahoma, were used because this research was done under the auspices of the Center as part of ongoing research on the problem of enuresis.

Subjects

From a population of approximately 200 respondents to a school newspaper article requesting enuretic Ss (Appendix E), thirty boys, age six through eight, were selected who met specific requirements of the research design. Age range was limited to provide a more valid interpretation of personality test responses. Also, the age range of six to eight was used because it represents the earliest ages for which objective personality test data are attainable while still being representative of the largest percentage of enuretics. The study was limited to boys as a control of the sex variable and for the sake of convenience. The Ss were persistent enuretics with a wetting frequency of at least three nights a

week. Physiological malfunctioning was ruled out by a medical examination performed by the family physician or a pediatrician from Children's Medical Center. Mental retardation was ruled out by evidence of grade appropriate achievement in school and by interview with the child. To help assure full parental cooperation, a comprehensive interview was held with them, at which time gross emotional disturbance of the child was ruled out. All interviews were conducted by this researcher. During the interview an attempt was made to ascertain whether or not the parents would remain together during the duration of the investigation. Parental separation was found to interfere with treatment during a pilot study and necessitated termination of treatment. The Ss were required to have one bedroom to themselves which could be locked in the daytime for the protection of the equipment. As it happened, all Ss meeting this requirement lived in areas of the city considered to represent middle to upper-middle economic levels. The thirty Ss were then randomly assigned to three experimental groups of ten each: continuous reinforcement, intermittent reinforcement, and a no reinforcement control group.

Design

This investigation may be described in accordance with a 2(pre-post) × 3(groups) factorial design consisting of three treatment groups (continuous reinforcement, intermittent reinforcement and placebo groups). There was pre- and post-testing on all Ss. The dependent variable is self-concept of the Ss as measured by three personality tests administered during the condition of enuresis and one month after remission of the wetting. The

results were collapsed into wet and dry groups regardless of the original group assignment. This was done in order to compare the self-concept measures of the successfully treated Ss with the self-concept measures of those remaining wet.

Apparatus and Tests

The conditioning instrument used in this study was an electronic device consisting of a bed pad which when wet closes a circuit causing either a loud bell (100 db; ref: 0.0002 dynes/cm^2, A Scale) to ring in the child's room, or a soft bell (76 db; ref: 0.0002 dynes/cm^2, A Scale) to ring in the parent's room, twenty minute post-wetting. A schematic for the Programmed Enuresis Treatment (PET) device is shown in Appendix A. A locked metal box contains the controls which regulate the sequences and schedules of reinforcement. Along with the loud bell, is a bright light which provides an additional noxious stimulus and further facilitates wakening. A service light goes off when the machine is reset by the parent. A warning light on the box reveals that the pad has not been thoroughly dried. The entire sequence of treatment is described in detail in Appendix D.

One measure of change in the S's self-concept is the difference in pre- and post-test measurements of social distance as defined by the Social Schema Test (SST). A modification (Weinstein, 1965) of the Interpersonal Grid of Kuethe's (1962) technique for measuring social schemata was used. In this task, the S must arrange, according to his own volition, a series of miniature human silhouette figures, 10 1/4 in. × 2 1/2 in. and 6 3/4 in. × 1 3/4 in., on four 3 × 3 feet felt covered boards. When

placement of one pair of figures was completed, the board was removed and another blank board presented along with the next pair of figures. This permitted measuring to take place after the S had left the room. Both vertical and horizontal distances between the figures were measured and recorded in centimeters by the investigator. Four figure combinations were used: (1) S-mother, (2) S-father, (3) S-female peer, (4) S-male peer. The four schema were present in a counterbalanced manner (Appendix B). The interpersonal grid is based on the theoretical assumption that figure placement will be representative of the S's social schema. The schemata, in turn, will reflect the manner in which the S perceives himself in relationship to significant others in his life. Moreover, it is assumed that the horizontal dimension measures feelings of approach-avoidance, and the vertical distance refers to dominance-submission or high versus low status. Various researchers, including Foa (1961) and Leary (1957) have theorized that most aspects of social relationships can be described in terms of these two orthogonal axes. The Interpersonal Grid provides a way of describing relationships along these two axes and has been used extensively by Kuethe (1962), Little (1965), Weinstein (1965), Carlson and Price (1966), Levinger and Gunner (1966).

All tests were administered by this investigator. The Early School Personality Questionnaire (ESPQ), Form A (Coan and Cattell, 1966) was administered individually to each S. This test is a research edition of a new objective questionnaire which resembles the 16 PF (Cattell and Eber, 3rd Edit., 1966) and the Children's Personality Questionnaire (Porter and Cattell, 1960) and is designed specifically for children in the six to eight age range. It differs from similar forms of the same test in that

it is designed to be read aloud to the S. Each dimension of the ESPQ represents a construct demonstrated to have general importance as a psychologically meaningful structure within personality. Of the thirteen factor analytically derived personality factors, four were chosen which were reported to have the highest reliability and validity ratings, while also seeming to be reflective of some areas of self-concept: (C) Affected by Feelings, Emotionally less stable, Easily upset, Changeable, versus Emotionally Stable, Faces Reality, Calm; (f) Sober, Prudent, Serious, Taciturn, versus Happy-Go-Lucky, Gay, Enthusiastic, Impulsively Lively; (H) Shy, Restrained, Diffident, Timid versus Venturesome, Socially Bold, Uninhibited, Spontaneous; (O) Placid, Secure, Confident, Untroubled versus Apprehensive, Worrying, Depressive, Troubled, Insecure (see Appendix H).

The third test used in this investigation was the Behavioral Rating Scale (BRS) which was completed by the parents. The BRS is a modification for parents by Lovibond (1964) of a Behavior Rating Scale by Haggerty-Olson-Wechman (Olson 1930) which was originally devised for school teachers. Parents were asked to rate the child on a number of widely recognized general personality characteristics which are relatively free from connotations of social approval or disapproval. Olson reported detailed studies of the reliability of the BRS and found reliabilities of .86 for repeated ratings by the same teacher. Reliability between raters was valid at .60 (Appendix G).

Instructions for the three tests can be found in Appendix C.

Procedure

All Ss were individually administered the two personality tests and their parents given the BRS. The conditioning apparatus was installed and demonstrated in the home and the parents received written, detailed operating instructions (see Appendix D). Subjects in the continuous reinforcement group experienced the loud bell and bright light every time they wet the bed. The parents were simultaneously awakened and entered the room, turned off the bell, changed the S's clothing and bedding, dried the pad, and reset the machine. The placebo group's parents were awakened twenty minutes after the wetting with the soft bell and performed the same procedures. The intermittent group experienced the loud bell immediately after wetting 70 percent of the time and the twenty-minute delay with soft bell 30 percent of the time. All conditions were held constant across the three groups except that the placebo group did not receive the loud bell which is the explicit treatment. When the S had been continuously dry for one week, the treatment was terminated. One month after the removal of symptoms the personality tests were again administered. In the case of relapses, the Ss were treated again. At the end of the study, placebo group Ss received treatment with the intermittent reinforcement which had shown to be the more effective in diminishing relapse rate.

Data Analysis

The dependent variables in this study were test scores before and after treatment. The results for the SST were submitted to the Kruskal-Wallis H one-way analysis of variance for groups with repeated measures on one factor. Non-parametric statistics were used because of an extreme

variability in the scores which rendered mean scores useless and suggested an absence of homogeneity of variance. The Wilcoxon T for treatment before versus after was administered. The results were then partitioned according to the dimension of wet versus dry and pre-treatment versus post-treatment regardless of which reinforcement group a subject was assigned. The Mann-Whitney U for the two groups and Wilcoxon T for treatment was administered.

An analysis of the BRS was by Wilcoxon T test for treatment and by Kruskal-Wallis H test for groups. Non-parametric tests must be used since the BRS scores are rank order data that must be considered as ordinal scale data. The groups (continuous, intermittent, and placebo) were first compared. Subjects were than assigned to wet or dry, pre-post treatment regardless to which reinforcement group they were originally assigned, and the results submitted to the Mann-Whitney U test and Wilcoxon T.

Analysis of the four subscales of the ESPQ (sten scores) were conducted in the same manner as described for the BRS. Statistical tests of significance are one-tailed ($p < 0.05$).

CHAPTER III

RESULTS

The following data will be analyzed in this chapter: (1) the differential effect of the conditioning treatment upon the three experimental groups: continuous, intermittent, and control as measured by a comparison of pre-test and post-test scores from the three personality tests; (2) the effect of successful treatment (dry) as opposed to unsuccessful treatment (wet) and no treatment, as represented by scores on the three personality tests. The comparison of the results of the three groups (see pp. 21-24) was carried out in order to evaluate possible treatment effects. Interpretation of these analyses was made with caution because of a possible confounding with the wet-dry comparisons. The main thrust of this research, however, is the examination of changes in the personality measures of Ss who have been successfully treated in comparison with those who have remained wet. These analyses are found on pages 25-29.

The results of the analyses for Hypotheses I and II are presented on pages 21-24 of this chapter. The analyses for Hypotheses III, IV, and V will be presented on pages 25-29. All calculations were performed on an Olivetti Computer Programmer 101.

Comparison of Intermittent, Continuous, and Control Groups--Pre and Post Treatment

Social Schema Test

Horizontal Distances.--A single factor, independent sample, non-parametric Analysis of Variance, (Kruskal-Wallis H) test was used in order to determine whether there was a significant Group by Treatment (pre-post) effect for Factor A (S-mother), i.e., to determine if there was a significant difference in the pre-post changes between groups. The dependent variable for this analysis was the horizontal distance between the two figures measured in centimeters (cm). Similar Kruskal-Wallis H tests were computed for Factors B (S-father), C (S-female peer), D (S-male peer). Only the H value for Factor C was significant ($H = 6.1563/df = 2/p \leq 0.05$). The sums of the ranks or differences for the Group by Treatment (pre-post) "interaction" are graphically presented in Figure 1 (Σ Continuous - 176.5, Σ Intermittent = 189.5, Σ Control = 99.0). Both the continuous and intermittent groups decreased the distance between the S and female peer, whereas the control group increased the distance. For Factors A, B, D, the H values were not significant.

For Factor C (S-female peer) a Mann-Whitney U was used to determine if the change in distance following treatment was significantly different between the continuous groups and the intermittent group. Similar Mann-Whitney Us were used to contrast the continuous with the control group and the intermittent with the control group. The continuous and intermittent groups did not differ significantly from each other, but both of these groups differed significantly from the control groups, as was

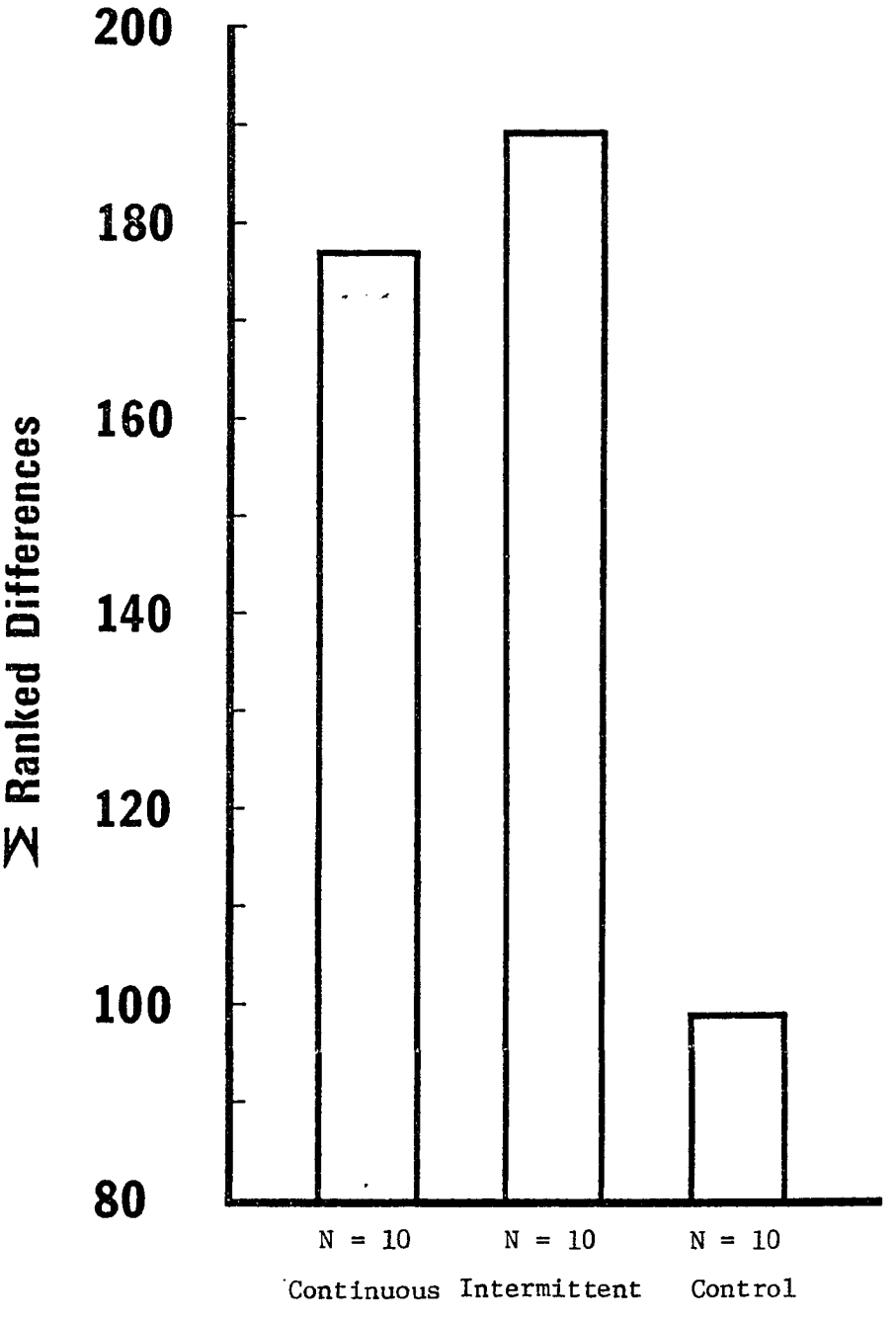

Fig. 1. Social Schema Test--Horizontal C, (S-Female Peer), comparison of amounts of change.

predicted (Continuous-Control, $U = 24.000/n = 10$, $n = 10/p < 0.05$) (Intermittent-Control, $U = 19.000/n = 10$, $n = 10/p = .025$).

The Wilcoxon T was used to determine whether significant differences occurred between the pre and post scores within the groups. All T values were non-significant.

Vertical Distances.--The analyses for the vertical distances proceeded in the same manner as that for the horizontal distances. The Kruskal-Wallis H test was used in order to determine whether there is a significant Group by Treatment (pre-post) effect for Factor A. The dependent variable for this analysis is the vertical distance measured in centimeters (cm) between the two figures placed on the board by the S. The H values were also calculated for Factors B, C, and D and all four were found to be non-significant.

The continuous, intermittent and control groups for each factor were examined with the Wilcoxon T to ascertain significant differences in pre-post scores within the groups. The T value for Factor D (male peer) indicated that the Ss placed these two figures significantly closer together after treatment ($\bar{X}$ pre = -3.2, $\bar{X}$ post = 2.6, $T = 5/n9/p < 0.05$). T values for the three groups within Factors A, B, and C showed non-significance.

Despite the fact that the Kruskal-Wallis H and the Wilcoxon T calculations showed little significance, it appeared, through observation of the difference values, that the scores seemed to be frequently changing in the predicted direction. A sign test was administered to all difference scores to ascertain the significance of the direction of

change. The intermittent group for Factor B (S-father) showed a significant change in direction for the vertical distance ($p < 0.05$). The sign test revealed no further significant changes for Factors A, C, and D.

Early School Personality Questionnaire

Four factors of the thirteen factors making up the ESPQ were pulled for analysis. The dependent variables were the sten scores for these four factors: (C) Affected by Feelings--Emotionally Stable, (F) Sober--Happy-Go-Lucky, (D) Shy--Venturesome, (O) Placid--Apprehensive. The Kruskal-Wallis H test was used in order to determine whether there is a significant Group by Treatment pre-post effect for Factor C. Similar Kruskal-Wallis H tests were computed for Factors F, H, and O. The H values for all four factors proved to be nonsignificant.

The Wilcoxon T was administered to determine whether significant differences occurred between the pre and post scores within the groups. All T values were non-significant. The sign test was administered to all results and indicated no significance.

Behavioral Rating Scale

The dependent variable was the total test score on the Behavioral Rating Scale (BRS) which was derived from ranked data. A decrease in total score was seen as improvement. The Kruskal-Wallis H was chosen to calculate the significance of the Group by Treatment, pre-post effects. The H values indicated no significant differences between the groups.

The Wilcoxon T test was administered to the three groups and the T values were non-significant.

Comparison of Wet and Dry Groups Before and After Treatment

Social Schema Test

Horizontal Distances.--The three original groups, continuous, intermittent and control, were collapsed into two groups after the treatment, and the Ss were placed into the wet group (N = 17) or dry group (N = 13) depending upon whether or not they were wetting at the time of post-testing. The Mann-Whitney U test was used in order to determine whether there is a significant Group by Treatment (pre-post) effect for Factor A (S-mother). The dependent variable for this analysis was the horizontal distance between the two figures, as measured in centimeters (cm). Similar Mann-Whitney Us were computed for Factors B, D, and C. Only the U value for Factor C (S-female peer) was significant. The dry group improved significantly over the wet group on this factor ($\bar{X}$ change wet = 12.8, $\bar{X}$ change dry = 19.0; U = 65.000/n = 17, n = 13/p = 0.025). Figure 2 displays graphically the $\bar{X}$ pre-post scores for the two groups ($\bar{X}$ pre wet = 12.3176, $\bar{X}$ post wet = 18.1235; $\bar{X}$ pre dry = 16.1230, $\bar{X}$ post dry = 12.6692).

The Wilcoxon T test for treatment was used on all data, and no significant differences were found between pre and post scores for either the wet or dry groups.

Vertical Distances.--The analyses for the vertical distances proceeded in the same manner as that of the horizontal distances. The Mann-Whitney U test was used in order to determine whether there is a

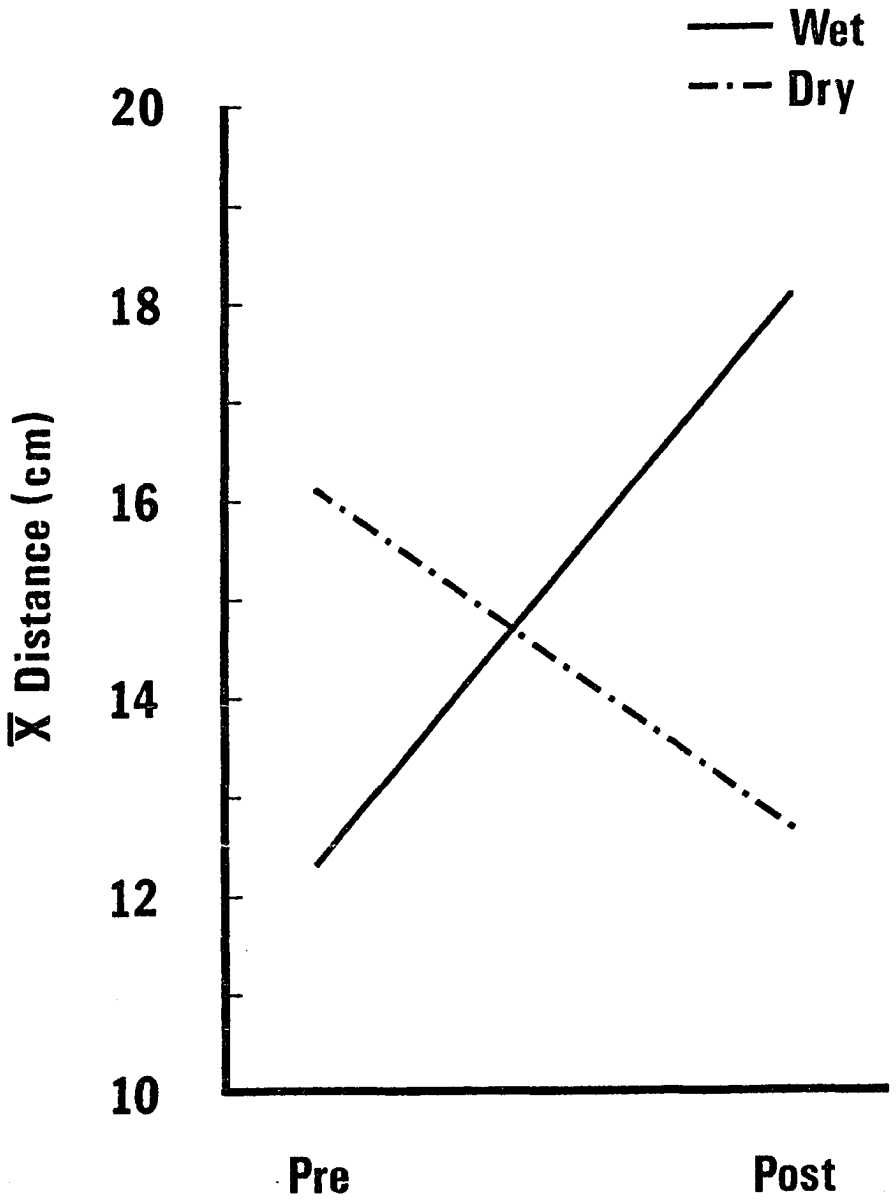

Fig. 2. Social Schema Test--Horizontal C. A decrease in distance shows improvement (S-female peer).

significant Group by Treatment (pre-post) effect for Factor A (S-mother). The dependent variable for this analysis is the vertical distance measured in centimeters (cm) between the two figures. The U values for Factor A, as well as for Factors B, C, and D, were found to be non-significant.

The Wilcoxon T was used to compare pre-post scores of the wet and dry groups, for each factor, to ascertain the significance of the treatment on these groups. Only the T value for Factor D (S-male peer) was significant with the dry group improving from pre to post ($\bar{X}$ pre = 1.9769, $\bar{X}$ post = 2.7615; T = 6/n = 13/p = 0.005). The wet group showed no significant change when examined with the Wilcoxon T.

The sign test was calculated for all data and revealed that for Factor B (S-father) the dry group did change significantly in the predicted direction (S more dominant) (p = 0.046).

Early School Personality Questionnaire

In order to measure whether the successfully treated Ss improved more than the unsuccessfully treated, the results for all four factors taken from the ESPQ, C, I, H and O were submitted to the Mann-Whitney U after the data had been partitioned into the groups of wet and dry, post-treatment. The dependent variable is the sten score for each factor. On one factor, H (Shy-Venturesome), the dry group showed significantly greater improvement from pre to post than did the wet group ($\bar{X}$ change wet = 17.9117, $\bar{X}$ change dry = 12.3461; U = 69.500/n = 17, n = 13/p = .025). Figure 3 graphically presents the $\bar{X}$ stens, pre and post for the wet and dry group ($\bar{X}$ pre wet = 5.17, $\bar{X}$ post wet = 4.64; $\bar{X}$ pre dry = 4.53, $\bar{X}$ post dry = 5.61). Factors C, F, and O showed non-significance.

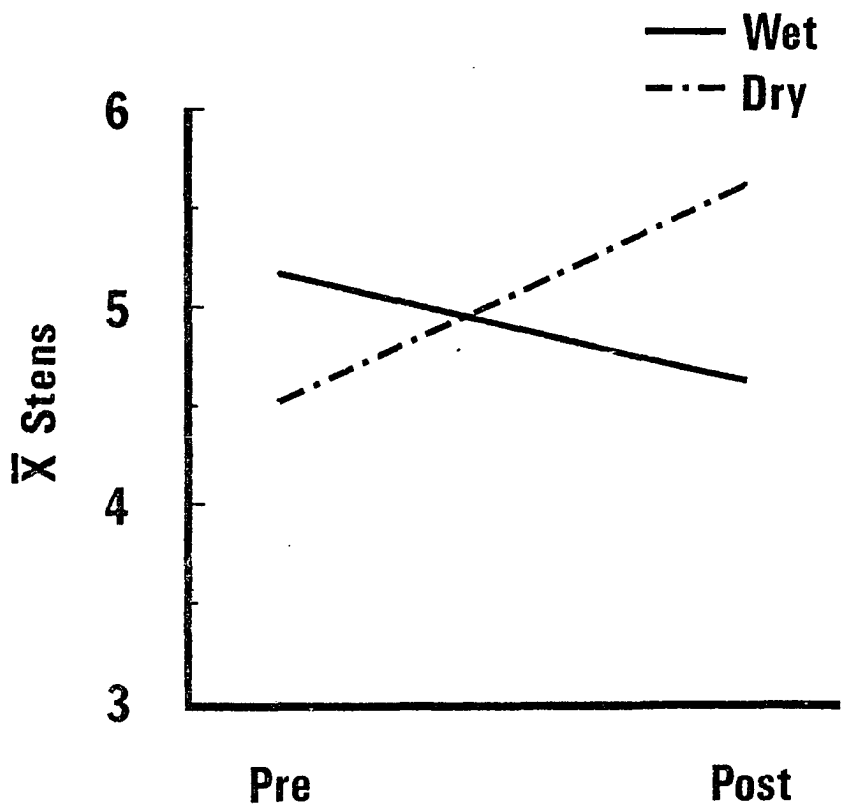

Fig. 3. Early School Personality Questionnaire. Factor H (Shy-Venturesome), an increase in test score shows improvement. Ss became less shy and more venturesome.

The Wilcoxon T test for treatment was conducted for all groups. The Ss' scores did not differ significantly from pre to post for the wet or dry groups for any of the four factors.

Behavioral Rating Scale

As was done with the ESPQ, the results of the Behavioral Rating Scale were submitted to the Mann-Whitney U to compare the changes in scores of the successfully treated Ss (drys) with those unsuccessfully treated (wets). The dependent variable was the total test score. The U values indicated that the dry group did not change significantly in relationship to the wet group.

The Wilcoxon T for treatment was calculated for the wet and dry group. The T value was non-significant. However, when the data were analyzed with the sign test, the dry group was shown to have significantly changed in a positive direction ($p = 0.011$).

CHAPTER IV

DISCUSSION AND CONCLUSIONS

The purpose of this chapter is to discuss the measured changes in self-concept of enuretic Ss who have been successfully treated. There was no indication in the research results that a successfully treated enuretic S's self-concept was differentially effected by his having received the continuous as opposed to the intermittent experimental treatment. Therefore, the focus of the discussion will deal with the self-concepts of Ss who have changed from the condition of wet to the condition of dry.

An overall review of the results clearly reveals that in none of the investigated areas of personality did the Ss change significantly for the worse. There was no evidence of symptom substitution at the time of post-testing. However, a longer period of observation would probably be necessary to thoroughly rule out the possibility of symptom substitution. Early testing did provide an opportunity to observe immediate, probably transient, negative reactions to the treatment with the loud bell. No significant negative reactions were noted.

There is evidence that the subjects did improve significantly in some areas related to self-concept. The results were not as conclusive as had been anticipated for all measures, and some contributing factors to this outcome will be mentioned throughout this chapter. The three personality tests used to measure self-concept changes will be

discussed in the following order: (1) Social Schema Test, (2) Early School Personality Questionnaire, (3) Behavioral Rating Scale.

Social Schema Test

The horizontal distance in centimeters (cm) between the figure of the S and the four figures representing mother, father, female peer, and male peer was assumed to measure tendencies to approach or avoid (love--hate) these significant others. It was also assumed that as the self-concept progressively improved, the S should place less distance between himself and others. On only horizontal C (S-female peer) did the dry subjects decrease the distance significantly in comparison with the wet subjects. Since there has been no other research to the author's knowledge, utilizing the SST with enuretics, and since a major purpose of research is to be hueristic, some speculations may be of value for the purpose of future research endeavors.

There was a wide variability in the scores, possibly due to the small N (13 dry, 17 wet). A larger N might have counteracted the wide variability. It is also possible that the significance of horizontal C was simply a chance occurrence, in light of the fact that there were no pre-post treatment changes of significance, and there seemed to be no patterns or trends of explanatory value. The approach-avoidance continuum as measured by the SST did not appear to play a strong role in the self-concept of these enuretics, despite the fact that the dry Ss did appear to become less distant to the female peer than did the wet Ss.

The vertical distance between the S and the four other figures was assumed to represent the continuum of dominance-submission (assertiveness

may be substituted for the word dominance). It was also assumed that as the self-concept of the Ss improved, the S would see himself as less submissive and more assertive in relationship to significant others and would place himself on the grid in a more dominant position.

The dry Ss became significantly less submissive and more assertive toward the male child from pre to post treatment. The wet group did not change significantly. The dry Ss also became less submissive and more assertive toward the father figures. Both the female figures (female peer and mother) elicited no significant change toward assertiveness or submission.

It is interesting to note that the pre-scores for the measurement of S-mother suggest that the S saw himself in a relatively dominant position in relationship to her while he was still in the enuretic condition. Out of the thirty Ss pre-tested, twenty-five Ss placed the figure representing the S above the figure representing mother. There seemed to be no definite pattern in the pre-measurements of the other three figures.

For the six- to eight-year-old boy in western society, it seems quite possible that the matter of submissiveness-assertiveness is more crucial in relationships to other males than to females. It is generally accepted that a boy of this age has already begun to establish his male identification as differentiated from a female identification. However, as an enuretic, he may see himself as an insufficient male. As the boy begins to see himself as more sufficient, he possibly feels more confident and is able to relate more assertively with others of his own sex.

One difficulty encountered in interpreting the SST is the nonexistence of normative data for specific age groups. Many investigations

have been carried out with variations of this test, but the results have been reported in differences between the groups being compared rather than in means for "normals." It cannot be determined if these enuretics were significantly submissive or assertive, or if they significantly tended to approach or avoid in relationship to others before treatment. Only the significance of change in one direction or another can be calculated.

Related to the finding of this research that assertiveness-submissiveness seems to be a factor affected by the extinction of the bed-wetting habit are the findings of Murphy, et al. (1971). Among the many character traits which he investigated as possibly occurring in enuretics, only submissiveness and aggressiveness occurred significantly more often among his twenty Ss than among his controls. As has been mentioned, it cannot be determined with the SST whether or not the Ss of the present study became assertive to the point of social maladjustment. The SST only suggests that they became less submissive and in the direction of more assertive.

Early School Personality Questionnaire

Closely related to assertiveness-submissiveness is the Shy-Venturesome (H) factor of the ESPQ. The dry group became significantly more venturesome and less shy than the wet group after treatment as measured by the ESPQ. Factor H is the only one of the four factors which changed significantly, and seems to be part of an emerging pattern of pre-post changes for these children.

The results of the ESPQ should not be difficult for a behaviorist to explain. According to the habit deficiency theory, persistent

enuretic Ss should not differ significantly from "normals" in emotional adjustment (Lovibond, 1964). Any changes in adjustment after successful treatment should, according to Lovibond, be in a positive direction and would be expected to be minimal. The enuretic Ss for the present study seemed to fit the description given by Lovibond.

The ESPQ is a rather new (1966) personality questionnaire which was suggested for use in this study by Mrs. Raymond Cattell, Director of the Institute for Personality and Ability Testing, Champaign, Illinois (personal communication). The test is assumed to measure personality traits. It may be that there was not enough time between the pre- and post-testing for a significant change to occur in a personality trait. A suggestion for further research would be to perform follow-up testing at least six months following termination of enuresis. One difficulty of this procedure would be that many of the subjects might, at the later date, have aged past the upper limit of eight. Normative data for the ESPQ is limited to the six to eight range. One month, post treatment, was chosen for this study because, in the planning stages, it was thought that many more Ss would relapse than did in actuality. There was concern that there might not be a dry group of sufficient N as late as two months post treatment because of a high relapse rate. This assumption proved to be unwarranted (Besserman, et al., 1973).

Another suggestion for further research with the ESPQ would be to compile a typical profile of personality characteristics for enuretic Ss. This use of the ESPQ has not been published to date.

Behavioral Rating Scale

At the time of post-testing, the parents of many Ss commented spontaneously about changes in the behavior of their child. Some parents called the Children's Medical Center to report their pleasure at what they perceived as increased self-confidence in the S, a general increase in happiness, and a tendency to accept responsibility more willingly.

The Rating Scale itself showed that there was significant improvement in behavior for the successfully treated group. Although the group did change significantly, the dry group did not change significantly more than the wet group. Thus the BRS did not offer as strong an evidence for change as might have been anticipated from the verbal comments of the parents. Perhaps the comments were, in part, a reflection of an improvement in the parent's feelings for the child because the distressful habit had been extinquished. When pressed for ratings on the BRS, perhaps the parents could not be sufficiently specific.

It would also be helpful if a rating scale were used which would be comprised of questions related only to self-concept. Many behaviors are included in this test which probably could not be expected to change simply by the removal of a habit. Therefore, even if there were significant changes in self-concept, it may not be clearly reflected in the total score.

Several additional suggestions for further research have evolved from the study of the results of this investigation. One variable not accounted for in this research is the sex of the parent involved in the

application of the treatment. Mothers tended to be the more involved, but some of the fathers also participated. Both parents worked together in filling out the BRS. It seems likely that the parent who is arising several times a night to change bedding might tend to see the child differently than the parent who is not involved. Perhaps the use of two separate forms, completed independently, would help to control for this variable. In addition, the social distance experienced by the child in relationship to these two people might vary depending upon which parent supervises the treatment.

A study comparing female bed-wetters with males would be advisable. Also various age ranges could be investigated perhaps to observe the role of the self-concept along an age continuum. It seems highly likely that the self-concept of teenage bed-wetters might be more negatively affected than the self-concept of younger children since the problem is not as common at the older age.

Because the intermittent treatment has been shown to be superior to the continuous treatment in the reduction of relapse rate, it would seem sensible to perform future research with this method. It could be of interest, however, to compare Ss who have relapsed, due to an inferior treatment, with those who have not relapsed to see if there is a negative affect on the self-concept of those who have been dry but could not maintain the new habit.

In conclusion, it can be said that positive changes in the self-concept of enuretic boys did occur after successful treatment for enuresis as measured by specific tests. The changes seem slight, but in no case were there significant changes for the worse. The control group, which received the same parental attention as the treated groups, and

also experienced having the same machinery in the boy's rooms, did not improve in any of the measures. Obviously, it was the condition of dry as opposed to wet which initiated change in the self concept. These results can be generalized only to six- to eight-year-old, Caucasian boys from at least middle income families, who are not retarded, and who are not suffering from a physiological abnormality or disease which is causing their nocturnal enuresis.

Implications of this research are: (1) that the conditioning treatment for removing the bed-wetting habit can be used for many enuretics without the fear that the S will suffer harmful psychological effects, (2) the removal of the bed-wetting habit is likely to aid the S in establishing a more positive self-concept, (3) the frequently expected symptom substitution is not likely to occur.

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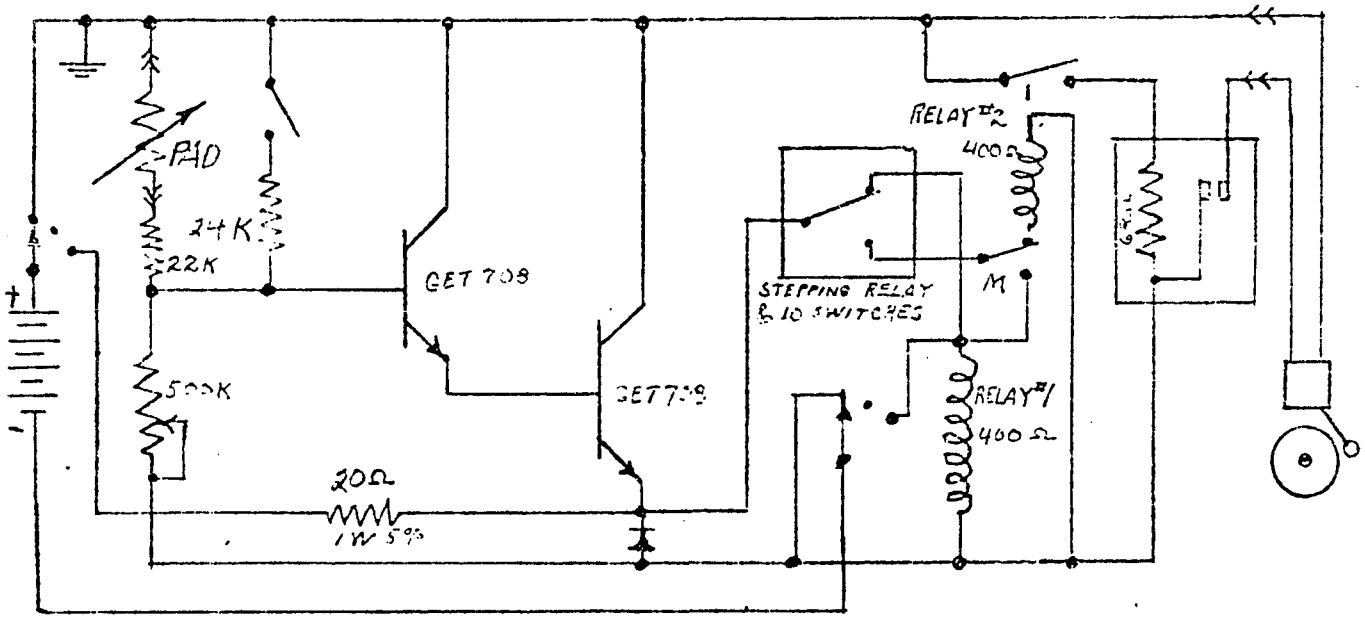
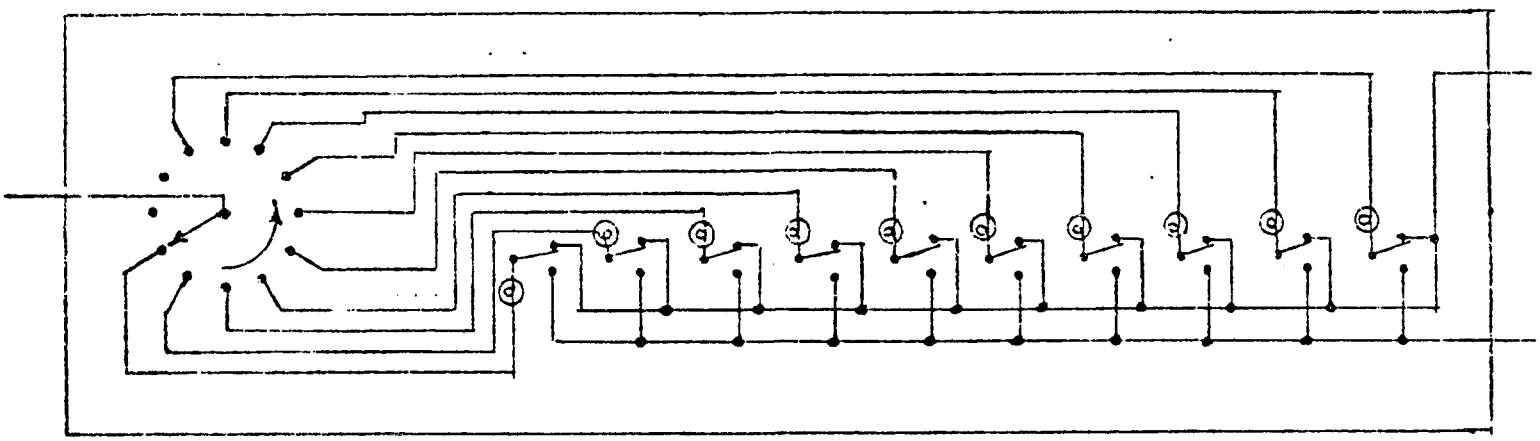
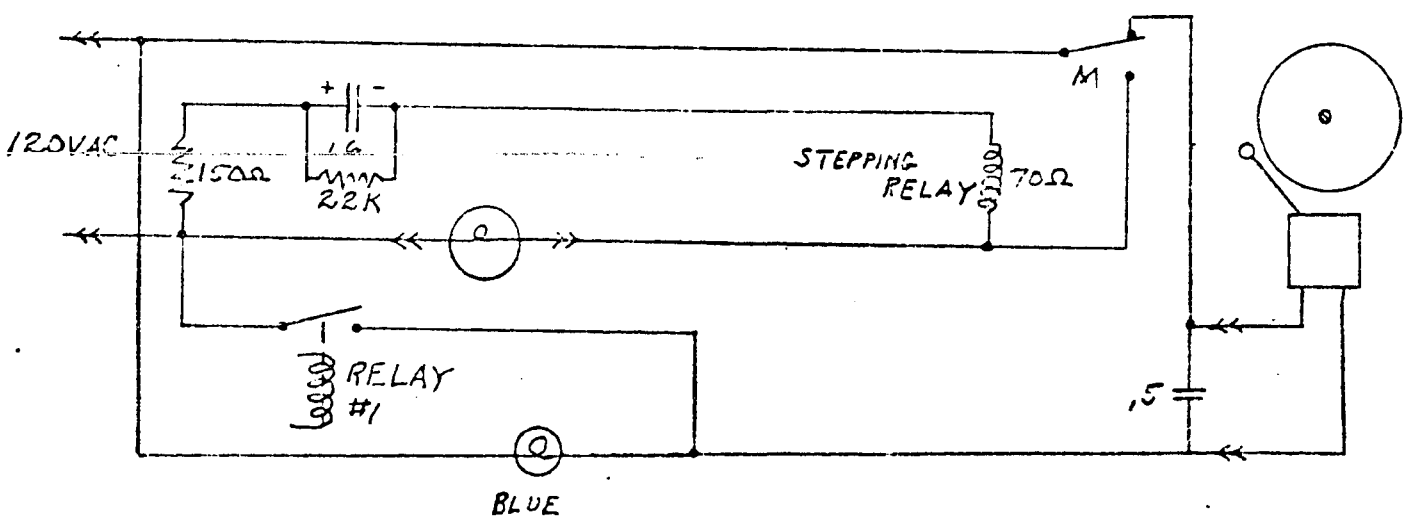
APPENDIX A

SCHEMATIC: ENURESIS TREATMENT ALARM SYSTEM





STEPPING RELAY & 10 SWITCHES #112 LAMPS



APPENDIX B

COUNTERBALANCED ORDERING OF THE FOUR SOCIAL SCHEMA

APPENDIX B

COUNTERBALANCED ORDERING OF THE FOUR SOCIAL SCHEMATA

There are twenty-four possible arrangements of the four Schemata and thirty Ss. A table of random numbers was used to assign the order of presentation for each arrangement. Sampling without replacement was done until after S 24. The final six arrangements will be continued from the table of random numbers.

Schemata

A. S-Mother

B. S-Father

C. S-Female Child

D. S-Male Child

Subject	Order	Subject	Order	Subject	Order
1.	ABDC	11.	CBAD	21.	DCAB
2.	ABCD	12.	CABD	22.	BCAD
3.	BADC	13.	CDAB	23.	BDCA
4.	ADBC	14.	DACB	24.	BACD
5.	BCDA	15.	CDBA	25.	ADBC
6.	DBCA	16.	DBAC	26.	ABDC
7.	ADCB	17.	CADB	27.	BDAC
8.	BDAC	18.	DABC	28.	BCDA
9.	ACDB	19.	CBDA	29.	DBCA
10.	DCBA	20.	ACBD	30.	ACDB

APPENDIX C

TEST INSTRUCTIONS

APPENDIX C

TEST INSTRUCTIONS

Behavior Rating Scale--Instructions Personally Administered

"I have here a list of questions about the behavior of your child. In each case I want you to determine which phrase best describes his behavior.

For each question you'll notice the phrases range from one type of behavior to its opposite. Try to make your rating by comparing your child with children of his own age. Also, try to consider each behavior quite separately from all the others.

When you've decided on the most appropriate descriptive phrase, put a mark under it. Do not attend to the small numbers under the phrases."

Early School Personality Questionnaire

The instructions will differ from those in the manual in that the test will be individually administered and the protocol will be marked by the examiner rather than the subject. The questions will be read aloud to the subject.

Social Schema Test

The subject will be given one pair of figures and will be told to place them on the felt covered board in any manner he wishes. This procedure will be repeated for all four pairs. The measurements will be taken after the subject has left the examining room.

APPENDIX D

INSTRUCTIONS FOR PARENTS

APPENDIX D

INSTRUCTIONS FOR PARENTS OF ENURETIC SUBJECTS

Many hundreds of children have been treated with conditioning instruments and over 90 percent of them have stopped wetting the bed within about ten weeks.

On the average, treatment lasts about four to six weeks, but it may take as long as two months. About one-third of the children whose bedwetting is stopped, start wetting again and have to use the instrument a second time. For this reason we stress that complete treatment must be thought of as requiring the use of the instrument on two occasions. If your child's bedwetting is stopped permanently after using the instrument once so much the better, but we must plan for a second treatment.

Very few children are not permanently cured after two treatments. Although the chances of curing your child are very good, you must realize that in order to get this result the instructions must be followed precisely. You will find that this requires quite a bit of effort from both you and your child. For example, in the first week or two you may have to get up many times a night, so you must reckon on quite a few disturbed nights. You must keep available as many as five pairs of sheets for your child's bed as he may wet frequently each night and you will have to get up and change his bedding after each wetting. Also, you should have available as many as five changes of sleeping night clothes for your child. An equal number of pillow cases is also necessary since the bedwetting pad is enclosed in a pillow case. Then you will have to keep exact records of the whole treatment on the forms which have been made out for this purpose.

A member of our therapy staff will come to your house each day during treatment (including Saturdays, Sundays, and holidays). At no time during the course of treatment should the procedure be interrupted. To do so could seriously impair the treatment process, and your child would have to be terminated from treatment.

APPENDIX D

PROGRAMMED ENURESIS TREATMENT (PET)

Instructions to Parents in the Use of PET

Introduction

When you saw PET for the first time you probably felt that it was too complicated and that you could never learn how to work it. However, PET has been designed so that there are only two switches and one blue light which you must learn how to operate. The rest of PET's functions are totally automatic.

There are three attachments to PET which you should also be familiar with. The first is the pad on which your child must sleep. This pad must be placed on the bed, preferably enclosed in a pillow case or under the bottom sheet of your child's bed. A wire runs from PET to the pad. Underneath the pad the wire is attached to two snaps. You must check each night to make sure these snaps are fastened securely to the pad.

The second attachment is a large red bell which is connected to PET by a cord and plug. This bell is very loud. When it rings, this means your child has just wet his bed. Sometimes the big red bell does not always ring. Sometimes you will never hear it ring throughout the course of treatment. Instead a small bell will ring in the parents' room. The small bell is about as loud as the ring of a telephone. Enough wire has been provided to make sure that the small bell in the parents' room will reach to PET in the child's room.

Instructions

1. Make sure PET is plugged in the wall socket each night.

2. There are two switches on PET which you must learn to operate. The first is a small switch in the upper corner of PET. It is labeled

   ON
   OFF
   TEST

   You should make sure, when your child goes to bed each night, that the small switch is placed in the ON position. The position of the switch is up. To be absolutely certain, you should pull the switch up gently with your finger. You should never place the small switch in any other position than ON. It is all right to leave this switch ON all day long when the pad is not in use, so long as the pad is

dry. Also, no metal objects should be placed on or left on the pad. To do so would either cause one of the bells to ring and/or would run down the batteries of PET.

3. The other switch you must learn to operate is the big switch located in the center of PET near the top, next to the blue light. When you put your child to bed, the big switch should be positioned up. The up position is labeled

   LIGHT OFF
   READY

   When your child wets, one of the two bells will start to ring. When you hear the bell, you go to your child's room. You will note a light has been turned on by PET when the loud bell is ringing. To turn off either bell and/or the light, push the center switch to the

   BELL OFF
   LIGHT OFF

   position. Just push the center switch down. One light will go off and another will come on. The one that comes on is the service light. Also you will note the blue light remains on. It will remain on even after the bell and other light have gone out. The blue light simply tells you the pad is still wet. You should then remove your child from the bed, dry him off, and put him in dry clothing. Then remove the wet pad from the bed (remove it from pillow case or from under bottom sheet) and dry it off with a towel. The pad is not adequately dry until the blue light goes out. Be careful not to disconnect the snaps from underneath the pad. If one should come loose, just snap it back on.

   Change all the wet bedding. Make sure the bed is absolutely dry. Place the dry pad back on the bed either in a new pillow case or under the bottom sheet. Check the snaps again to make sure they are connected to the pad. Put your child back in bed, making sure he is completely dry. Check after putting him back in bed that the blue light is off. If the blue light is on, the pad is still wet and needs to be dried. Once the blue light is off and your child is back in bed, flip the big center switch back up. This will turn off the service light and you may go back to bed. Be sure to note the time on the score form and to measure the width of the wet spot before changing the bedding.

Below is a list of events and what you should do.

1. Make sure PET is plugged into wall socket each night.

2. Make sure small switch in upper corner of PET is in ON position.

3. Make sure big center switch of PET is up in the LIGHT OFF position.
   READY

4. Make sure pad is placed properly on child's bed and is dry.

5. Make sure wire from PET is securely attached at the two snaps underneath the pad.

6. Turn out lights and go to bed.

7. You and your child are asleep when one of two bells begins to ring.

8. Rush to child's room. Note blue light on PET is on, and a light over or near child's bed is on.

9. Place center switch near blue light in BELL OFF position.
LIGHT ON

10. This will turn off whichever bell is ringing and turn off one light and turn on a service light. The blue light will still be on.

11. Record time of night on score sheet. This will require that a clock or watch be nearby.

12. Get your child out of bed, dry him off completely, and place him in dry night clothes.

APPENDIX E

TULSA PUBLIC SCHOOLS NEWSLETTER ARTICLE

APPENDIX E

TULSA PUBLIC SCHOOLS NEWSLETTER ARTICLE

Team to Study 30 Bedwetters
(February, 1972)

Bedwetting, long a hidden and hush-hush subject is emerging into the spotlight of intensive medical and scientific research. In fact, researchers at Children's Medical Center are openly seeking 30 children, aged 6 through 8, for a study on treatment of enuresis (bedwetting).

Dr. William W. Finley, research psychologist, heads the research team which expects that most children treated in the study will stop wetting the bed.

Children accepted for the project must consistently wet the bed three or more times a week. Treatment procedure will be conducted at the child's home through a simple form of learning, or "conditioning." The treatment apparatus, Programmed Enuresis Treatment (PET), will be installed in the home for approximately a month, the expected length of treatment.

No electric shocks or drugs will be given, and there is no danger from treatment. Safety and effectiveness of the apparatus have been checked by Children's researchers.

No fee is charged for participation in the study, although each child is required to have a physical examination which may be completed by the family physician.

Applications are being sought immediately. For complete details, parents with enuretic children may call Dr. Finley at Children's Medical Center, 749-2281, extension 307.

APPENDIX F

RAW DATA

TABLE 1

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR A, S-MOTHER
CONTINUOUS, INTERMITTENT, CONTROL

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Continuous				
1	10.5	5.5	4.1	24.5
2	8.3	10.5	-0.8	29.0
3	9.9	11.0	5.4	0.0
4	22.7	9.5	5.2	2.5
5	7.3	0.0	45.3	37.4
6	11.5	5.0	4.1	25.0
7	6.5	7.4	0.9	6.5
8	26.4	49.5	1.3	3.5
9	4.5	5.0	0.2	4.5
10	12.5	10.9	4.2	5.1
Intermittent				
11	14.1	1.4	31.5	19.3
12	7.5	6.4	0.2	0.3
13	79.3	43.0	69.1	29.5
14	9.4	9.5	3.4	4.2
15	74.2	30.3	7.7	-17.1
16	5.5	7.6	-0.5	0.3
17	13.3	11.2	2.3	-1.1
18	4.6	4.7	1.1	0.5
19	7.5	21.3	0.3	4.3
20	19.4	10.3	2.7	6.5
Control				
21	4.5	14.4	2.2	1.8
22	9.5	6.3	0.6	0.3
23	10.5	10.4	4.1	3.4
24	12.5	36.1	0.7	3.0
25	14.9	7.7	1.2	-0.5
26	8.2	6.1	-0.4	0.3
27	10.3	19.8	0.9	3.2
28	9.7	10.3	1.8	5.0
29	23.0	4.9	-7.8	-1.0
30	27.5	18.6	-0.4	-0.3

TABLE 2

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR A, S-MOTHER
DRY, WET

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Dry				
1	10.5	5.5	4.1	24.5
2	9.9	11.0	5.4	0.0
3	22.7	9.5	5.2	2.5
4	7.3	0.0	45.3	37.4
5	10.5	5.5	4.1	24.5
6	12.5	10.9	4.2	5.1
7	14.1	1.4	31.5	19.3
8	7.5	6.4	0.2	0.3
9	74.2	30.3	7.7	-17.1
10	5.5	7.6	-0.5	0.3
11	4.6	4.7	1.1	0.5
12	7.5	21.3	0.3	4.3
13	19.4	10.3	2.7	6.5
Wet				
14	8.3	10.5	-0.8	4.9
15	6.5	7.4	0.9	4.9
16	26.4	49.5	1.3	3.5
17	4.5	5.0	0.2	0.4
18	79.3	43.0	69.1	29.5
19	9.4	9.5	3.4	4.2
20	13.3	11.2	2.3	-1.1
21	4.5	14.4	2.2	1.8
22	9.5	6.3	0.6	0.3
23	10.5	10.4	4.1	3.4
24	12.5	36.1	0.7	3.0
25	14.9	7.7	1.2	-0.5
26	8.2	6.1	-0.4	0.3
27	10.3	19.8	0.9	3.2
28	9.7	10.3	1.8	5.0
29	23.0	4.9	-7.8	-1.0
30	27.5	18.6	-0.4	-0.3

TABLE 3

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR B, S-FATHER
CONTINUOUS, INTERMITTENT, CONTROL

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Continuous				
1	12.8	0.0	-0.1	0.5
2	8.1	12.1	0.6	0.3
3	5.1	10.2	1.9	1.0
4	9.5	8.0	3.3	3.5
5	6.6	8.2	1.3	12.8
6	12.8	0.0	-0.1	0.5
7	5.6	7.1	0.7	0.7
8	10.6	10.2	0.5	-5.3
9	7.5	8.1	-0.7	-5.6
10	10.1	19.0	-2.7	11.1
Intermittent				
11	19.2	17.9	-0.6	21.6
12	7.0	6.2	-0.5	0.4
13	37.2	75.0	-67.9	42.5
14	8.1	16.0	-0.4	7.9
15	2.0	79.2	-18.4	-1.0
16	6.7	12.2	1.3	1.2
17	5.5	9.5	1.7	3.9
18	27.3	10.3	1.1	1.3
19	13.6	12.5	1.1	5.7
20	0.0	33.5	19.7	0.5
Control				
21	10.2	8.5	-0.4	-0.9
22	7.8	11.0	-0.4	-0.5
23	7.4	9.2	-1.0	1.0
24	9.0	27.7	1.3	-16.4
25	14.0	8.4	1.1	2.6
26	9.0	6.7	1.3	0.2
27	11.0	10.5	8.1	4.2
28	11.1	11.5	1.4	7.9
29	22.6	22.5	-7.9	-23.9
30	32.5	31.9	-0.5	3.1

TABLE 4

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR B, S-FATHER
DRY, WET--POST TREATMENT

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Dry				
1	12.8	0.0	-0.1	0.5
2	5.1	10.2	1.9	1.0
3	9.5	8.0	3.3	3.5
4	6.6	8.2	1.3	12.8
5	12.8	0.0	-0.1	0.5
6	10.1	19.0	2.7	11.1
7	19.2	17.9	-0.9	21.6
8	7.0	6.2	-0.5	0.4
9	2.6	79.2	-18.4	-1.0
10	6.7	12.2	1.3	1.2
11	27.3	10.3	1.1	1.3
12	13.6	12.5	1.1	5.7
13	0.0	0.5	19.7	33.5
Wet				
14	8.1	12.1	0.6	0.3
15	5.6	7.1	0.7	0.7
16	10.6	10.2	0.5	-5.3
17	7.5	8.1	-0.7	-5.6
18	37.2	75.0	-67.9	42.5
19	8.1	16.0	-0.4	7.9
20	5.5	9.5	1.7	3.9
21	10.2	8.5	-0.4	-0.9
22	7.8	11.0	-0.4	-0.5
23	7.4	9.2	-1.0	1.0
24	9.0	27.7	1.3	-16.4
25	14.0	8.4	1.1	2.6
26	9.0	6.7	1.3	0.2
27	11.0	10.5	8.1	4.2
28	11.1	11.5	1.5	7.9
29	22.6	22.5	-7.9	-23.9
30	32.5	31.9	-0.5	3.1

TABLE 5

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR C, S-FEMALE
CONTINUOUS, INTERMITTENT, CONTROL

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Continuous				
1	7.7	0.0	1.5	0.5
2	5.8	8.0	-0.1	0.5
3	9.6	6.5	-1.8	-0.4
4	9.1	5.6	1.2	-0.3
5	18.6	0.0	-8.8	-3.6
6	7.7	0.0	1.5	0.5
7	5.0	6.3	0.2	0.5
8	5.5	21.9	-0.3	1.6
9	5.0	7.8	-0.3	0.2
10	12.4	14.3	-0.3	-2.8
Intermittent				
11	10.4	15.3	-0.3	1.5
12	7.2	7.3	-0.3	-0.1
13	64.9	22.0	-1.1	45.0
14	8.7	6.0	2.2	-0.2
15	82.1	76.5	-33.2	-17.1
16	9.2	6.1	1.8	0.3
17	16.8	8.3	0.0	-2.6
18	7.4	14.2	0.4	0.8
19	7.7	11.2	1.0	-2.5
20	22.5	7.6	1.0	-0.2
Control				
21	9.2	7.2	-0.5	1.7
22	6.1	7.1	0.5	1.0
23	9.4	14.7	0.5	14.7
24	8.2	42.8	-0.3	-17.0
25	6.4	8.1	0.7	0.4
26	7.4	5.4	-0.6	-0.1
27	10.2	59.5	-28.6	-28.7
28	6.0	23.4	0.3	-0.6
29	18.3	44.3	5.4	-4.2
30	32.4	21.9	0.5	-1.8

TABLE 6

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR C, S-FEMALE
DRY, WET

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Dry				
1	7.7	0.0	1.5	0.5
2	9.6	6.5	-1.8	-0.4
3	9.1	5.6	1.2	-0.3
4	18.6	0.0	-8.8	-3.6
5	7.7	0.0	1.5	0.0
6	12.4	14.3	1.5	-2.8
7	10.4	15.3	-0.3	1.5
8	7.2	7.3	-0.3	-0.1
9	82.1	76.5	-33.2	-17.1
10	9.2	6.1	1.8	0.3
11	7.4	14.2	0.4	0.8
12	7.7	11.2	1.0	-2.5
13	22.5	7.6	1.0	-0.2
Wet				
14	9.2	7.2	-0.5	1.7
15	6.1	7.1	0.5	1.0
16	9.4	14.7	0.5	-1.1
17	8.2	42.8	-0.3	-17.0
18	6.4	8.1	-0.7	-0.4
19	7.4	5.4	-0.6	-0.1
20	10.2	59.5	-28.6	-28.7
21	6.0	23.4	0.3	-0.6
22	18.3	44.3	5.4	-4.2
23	16.5	15.3	-1.1	0.2
24	5.8	8.0	-0.1	0.5
25	5.6	6.3	0.2	0.5
26	5.5	21.9	-0.3	1.6
27	5.0	7.8	-0.3	0.3
28	64.9	22.0	-1.1	45.0
29	8.7	6.0	2.2	-0.2
30	16.8	8.3	0.0	-2.6

TABLE 7

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR D, S-MALE
CONTINUOUS, INTERMITTENT, CONTROL

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Continuous				
1	5.0	0.0	-11.2	11.0
2	8.0	9.2	0.7	0.3
3	14.5	7.3	-8.9	0.7
4	8.3	1.4	-1.0	0.5
5	46.7	10.0	1.4	2.4
6	7.0	0.0	-13.2	11.0
7	4.9	5.7	-0.7	0.3
8	11.4	11.3	0.3	-0.7
9	5.7	7.8	0.3	0.3
10	10.4	14.4	-0.3	0.4
Intermittent				
11	19.3	10.1	-0.7	1.3
12	4.8	5.2	0.4	0.6
13	37.5	84.0	32.4	-0.5
14	8.7	7.2	0.7	0.5
15	6.0	8.6	-0.4	3.4
16	5.4	8.3	-0.5	2.6
17	18.1	11.4	-4.3	-0.3
18	13.2	5.6	3.4	0.3
19	8.5	11.2	2.3	1.2
20	8.0	33.5	3.0	0.5
Control				
21	6.9	7.0	-0.2	0.8
22	7.0	8.4	0.3	-4.1
23	10.6	18.1	-0.3	1.7
24	8.9	7.7	-0.5	-0.7
25	13.9	5.6	-0.8	-1.5
26	6.1	4.9	-0.3	-0.3
27	7.1	6.4	-11.5	-1.8
28	10.1	15.1	0.5	1.5
29	8.3	30.1	-1.3	3.6
30	32.4	21.9	0.5	-1.8

TABLE 8

RAW DATA FOR SOCIAL SCHEMA TEST, FACTOR D, S-MALE
DRY, WET--POST TREATMENT

S	Horizontal		Vertical	
	Pre	Post	Pre	Post
Dry				
1	5.0	0.0	-11.2	11.0
2	14.5	7.3	-8.9	0.7
3	8.3	1.4	-1.0	0.5
4	46.7	10.0	1.4	2.4
5	7.0	0.0	-12.2	11.0
6	10.4	14.4	-0.3	0.4
7	19.3	10.1	-0.7	1.3
8	4.8	5.2	0.4	0.6
9	6.0	8.6	-0.4	8.6
10	5.4	8.3	-0.5	2.6
11	13.2	5.6	3.4	0.3
12	8.5	11.2	2.3	1.2
13	8.0	33.5	3.0	0.5
Wet				
14	8.0	9.2	0.7	0.3
15	4.9	5.7	-0.7	0.3
16	11.4	11.3	0.3	-0.7
17	5.7	7.8	0.3	0.3
18	37.5	84.0	32.4	-0.5
19	8.7	0.5	0.7	7.2
20	18.1	11.4	-4.3	-0.3
21	6.9	7.0	-0.2	0.8
22	7.0	8.4	0.3	-4.1
23	10.6	18.1	-0.3	1.7
24	8.9	7.7	-0.5	-0.7
25	13.9	5.6	-0.8	-1.5
26	6.1	4.9	-0.3	-0.3
27	7.1	6.4	-11.5	-1.8
28	0.5	1.5	10.1	15.1
29	8.3	30.1	-1.3	3.6
30	32.4	21.9	0.5	-1.8

TABLE 9

RAW DATA FOR EARLY SCHOOL PERSONALITY QUESTIONNAIRE
FACTOR C

S	Pre	Post	S	Pre	Post
Continuous			Dry		
1	6	4	1	6	4
2	7	6	2	8	8
3	8	8	3	4	6
4	4	6	4	5	8
5	5	8	5	8	8
6	8	8	6	4	5
7	5	8	7	4	6
8	3	4	8	3	6
9	6	2	9	6	5
10	4	5	10	4	4
			11	6	7
Intermittent			12	5	6
			13	7	6
11	4	6			
12	3	6	Wet		
13	7	6			
14	6	4	14	7	6
15	6	5	15	5	8
16	4	4	16	3	4
17	7	5	17	6	2
18	6	7	18	7	6
19	5	6	19	6	4
20	7	6	20	7	5
			21	2	5
Control			22	9	9
			23	4	6
21	2	5	24	2	7
22	9	9	25	9	9
23	4	6	26	10	8
24	7	7	27	8	4
25	9	9	28	6	5
26	10	8	29	7	8
27	8	4	30	4	5
28	6	5			
29	7	8			
30	4	5			

TABLE 10

EARLY SCHOOL PERSONALITY QUESTIONNAIRE
FACTOR O

S	Pre	Post	S	Pre	Post
Continuous			Dry		
1	6	6	1	6	6
2	2	4	2	1	5
3	1	5	3	6	6
4	6	6	4	2	4
5	2	4	5	7	6
6	7	6	6	6	4
7	5	2	7	6	1
8	6	7	8	6	6
9	6	7	9	8	2
10	6	4	10	6	6
			11	9	6
Intermittent			12	6	5
11	6	1	13	6	5
12	6	6			
13	6	4	Wet		
14	5	5	14	2	4
15	8	2	15	5	2
16	6	6	16	6	7
17	2	5	17	6	7
18	9	6	18	6	4
19	6	5	19	5	5
20	6	5	20	2	5
			21	8	2
Control			22	4	1
21	8	2	23	7	6
22	4	1	24	6	5
23	7	6	25	6	5
24	6	5	26	4	6
25	6	5	27	6	8
26	4	6	28	6	4
27	6	8	29	1	4
28	6	4	30	6	7
29	1	4			
30	6	7			

TABLE 11

EARLY SCHOOL PERSONALITY QUESTIONNAIRE
FACTOR H

S	Pre	Post	S	Pre	Post
Continuous			Dry		
1	3	4	1	3	4
2	7	6	2	5	6
3	5	6	3	4	5
4	4	5	4	8	7
5	8	7	5	4	3
6	4	3	6	7	6
7	6	5	7	6	7
8	5	2	8	3	5
9	4	3	9	5	5
10	7	6	10	5	4
			11	2	8
Intermittent			12	3	9
11	6	7	13	4	3
12	3	5			
13	7	7	Wet		
14	3	5	14	7	6
15	5	5	15	6	5
16	5	4	16	5	2
17	6	7	17	4	3
18	2	8	18	7	7
19	3	9	19	3	5
20	4	3	20	6	7
			21	1	1
Control			22	7	8
21	1	1	23	2	4
22	7	8	24	9	8
23	2	4	25	8	7
24	9	8	26	7	4
25	8	7	27	4	2
26	7	4	28	6	4
27	4	2	29	4	4
28	6	4	30	2	2
29	4	4			
30	2	2			

TABLE 12

EARLY SCHOOL PERSONALITY QUESTIONNAIRE
FACTOR F

S	Pre	Post	S	Pre	Post
Continuous			Dry		
1	8	3	1	8	3
2	6	6	2	7	6
3	7	6	3	2	3
4	2	3	4	6	10
5	6	10	5	6	5
6	6	5	6	3	7
7	8	9	7	5	8
8	2	4	8	4	8
9	2	3	9	2	5
10	3	7	10	5	7
			11	6	5
Intermittent			12	2	3
			13	4	6
11	5	8			
12	4	8	Wet		
13	10	10			
14	4	3	14	6	6
15	2	5	15	8	9
16	5	7	16	2	4
17	7	5	17	2	3
18	6	5	18	10	10
19	2	3	19	4	3
20	4	6	20	7	5
			21	8	10
Control			22	7	7
			23	2	4
21	8	10	24	3	6
22	7	7	25	7	8
23	2	4	26	7	8
24	3	6	27	8	7
25	7	8	28	7	7
26	7	8	29	3	2
27	8	7	30	6	4
28	7	7			
29	3	2			
30	6	4			

TABLE 13

RAW DATA FOR BEHAVIORAL RATING SCALE

S	Pre	Post	S	Pre	Post
Continuous			Dry		
1	34	46	1	34	46
2	40	33	2	27	29
3	27	29	3	37	33
4	37	33	4	45	45
5	45	45	5	31	26
6	31	26	6	44	35
7	68	50	7	46	39
8	45	45	8	32	32
9	37	34	9	38	34
10	44	35	10	38	38
			11	36	31
Intermittent			12	33	29
11	46	39	13	33	32
12	32	32			
13	31	28	Wet		
14	42	51	14	40	33
15	38	34	15	68	50
16	38	38	16	45	45
17	35	40	17	37	34
18	36	31	18	31	28
19	33	29	19	42	51
20	33	32	20	35	40
			21	33	30
Control			22	32	32
21	33	30	23	34	37
22	32	32	24	43	43
23	34	37	25	35	32
24	43	43	26	33	33
25	35	32	27	54	37
26	33	33	28	32	37
27	54	37	29	44	35
28	32	37	30	47	41
29	44	35			
30	47	41			

APPENDIX G

BEHAVIORAL RATING SCALE

APPENDIX

BEHAVIORAL RATING SCALE

1. Does he live in a dream-world or is he wide awake?

					SCORE
Continually absorbed in himself	Frequently day dreams	Usually present minded	Wide-awake	Keenly alive and alert	
(5)	(4)	(2)	(1)	(3)	_____

2. Is his attention sustained?

Distracted: jumps from one thing to another	Difficult to keep at task until completed	Attends adequately	Is absorbed in what he does	Able to hold attention for long periods	
(5)	(4)	(3)	(1)	(2)	_____

3. Is he indifferent or does he take an interest in things?

Is indifferent, unconcerned	Uninquisitive, rarely interested	Displays usual curiosity	Interests are easily aroused	Has consuming interest in most everything	
(5)	(4)	(1)	(2)	(3)	_____

4. Can he compete with others on a physical basis?

Weak and handicapped	Has some physical difficulties	Can hold his own	Is stronger than most	Has exceptional strength	
(5)	(3)	(2)	(1)	(4)	_____

5. What is his output of physical energy?

Extremely sluggish	Slow in action	Moves with required speed	Energetic, vivacious	Over-active, never still	
(5)	(3)	(2)	(1)	(4)	_____

6. Is he easily fatigued?

Shows quick exhaustion	Does not have ordinary endurance	Endures satisfactorily	Rarely shows fatigue	Unusually vigorous and robust	
(4)	(3)	(1)	(2)	(5)	

7. Does he lack nerve, or is he courageous?

Excessively fearful	Gets "cold feet"	Will take reasonable chances	Resolute	Dare-devil	
(4)	(3)	(1)	(2)	(5)	_____

8. Is he quiet or talkative?

Speaks very rarely	Mostly quiet	Upholds his end of talk	Talks more than his share	Jabbers	
(3)	(1)	(2)	(4)	(5)	_____

9. What are his social habits?

Lives almost entirely to himself	Follows few social activities	Pursues usual social activities and customs	Actively seeks social pleasures	Prefers social activities to all else	
(4)	(3)	(1)	(2)	(5)	_____

10. Is he shy or bold in social relationships?

Painfully self-conscious	Timid frequently embarrassed	Self-conscious on occasions	Confident in himself	Bold, insensitive to social feelings	
(4)	(2)	(1)	(3)	(5)	_____

11. How flexible is he?

Stubborn, hidebound non-conformist	Slow to accept new customs and methods	Conforms willingly as necessity arises	Quick to accept new customs and methods	Easily persuaded, unstable	
(5)	(3)	(2)	(1)	(4)	_____

18. Is he emotionally calm or excitable?

No emotional responses, apathetic	Emotions are slowly aroused	Responds quite normally	Is easily aroused	Extreme reactions, hysterical, high strung	
(4)	(2)	(1)	(3)	(5)	_____

19. Is he negativistic or suggestible?

Negativistic contrary	Complies slowly	Is generally open minded	Rather easily persuaded	Follows any suggestions	
(5)	(4)	(1)	(2)	(3)	_____

20. Does he act impulsively or cautiously?

Impulsive, bolts, acts on spur of the moment	Frequently unreflective and imprudent	Acts with reasonable care	Deliberate	Very cautious and calculating	
(5)	(4)	(2)	(1)	(3)	_____

TOTAL SCORE _____

APPENDIX H

ESPQ-FORM A

APPENDIX

ESPQ-FORM A

Part A_1

1. (Star) Do you like talking in front of the class? (A) yes, or (B) no.

2. (Circle) (A) Are your dreams usually nice, or (B) do they scare you?

3. (Square) Do you think: (A) only some people like you, or (B) everybody likes you?

4. (House) Would you rather go on a trip with: (A) your mother, or (B) your father?

5. (Bird) On the playground: (A) do you run most of the time, or (B) do you stand still a lot?

6. (Flower) When you have a new idea: (A) do you keep it to yourself, or (B) do you tell it?

7. (Chair) When your mother is angry: (A) do you feel happy anyway, or (B) do you feel like crying?

8. (Cat) If another child has your coat, do you: (A) take it away from him, or (B) tell the teacher?

9. (Wagon) If you get upset or sad: (A) do you get happy again pretty soon, or (B) do you stay sad for a long time?

10. (Elephant) Would you rather: (A) look at a picture book by yourself, or (B) look at it with another boy or girl?

(End of column on answer sheet)

11. (Airplane) Do you like to: (A) tell other children what to do, or (B) do what other children want to do?

12. (Rabbit) (A) Do things sometimes seem to hard, or (B) do things never seem too hard?

13. (Tree) (A) Do you like to talk to your teacher, or (B) are you sometimes a little afraid to?

14. (Bicycle) Would you rather: (A) talk to a friend, or (B) look at comic books?

15. (Boat) When you see a strange dog, do you want to: (A) pet it, or (B) keep away from it?

16. (Cup) If somebody said something that was not right, would you: (A) tell him about it, or (B) not say anything?

17. (Candle) If you were up on a big rock: (A) would you be scared, or (B) would you just laugh?

18. (Hat) When you get hurt, do you: (A) cry, or (B) try to keep from crying?

19. (Hammer) Do people sometimes punish you when you haven't done anything wrong? (A) yes, or (B) no.

20. (Car) When you mother and father say it's time for bed: (A) do you like to go to bed, or (B) do you want to stay up longer?

(End of page 1 on answer sheet)

21. (Star) (A) Do you like to see other children cry, or (B) does it make you sad?

22. (Circle) Would you rather: (A) go to a party, or (B) stay home and play?

23. (Square) Is a large house: (A) a big house, or (B) a small house?

24. (House) Is a butterfly: (A) a bird, or (B) an insect?

25. (Bird) (A) Can you remember stories, or (B) do you forget them very soon?

26. (Flower) (A) Do your friends sometimes say bad things about you, or (B) do they only say true things?

27. (Chair) Would you rather: (A) color a book, or (B) climb a tree?

28. (Cat) If you were in a play, would you rather be: (A) a teacher, or (B) a hunter?

29. (Wagon) Who usually has better ideas: (A) you, or (B) your friend?

30. (Elephant) (A) Do you have to do things you don't want to do, or (B) do you always do what you want to?

(End of column on answer sheet)

31. (Airplane) Do you ever feel like running away from home? (A) yes, or (B) no.

32. (Rabbit) What does a house always have: (A) a chimney, or (B) a roof?

33. (Tree) Jenny is smarter than Louise. Louise is smarter than Rose. Who is smarter: (A) Jenny, or (B) Rose?

34. (Bicycle) Does the teacher think you are: (A) noisy, or (B) quiet?

35. (Boat) Do you like to play games: (A) with just one or two children that you know, or (B) with a lot of children?

36. (Cup) When you are told to do something or put something away: (A) do you always do it right away, or (B) do you sometimes forget what you are supposed to do?

37. (Candle) Do you shiver when you hear a squeaky door or chalk scraping on the blackboard? (A) yes, or (B) no.

38. (Hat) (A) Can you touch a big bug, or (B) are you afraid to touch bugs?

39. (Hammer) Do you sometimes feel a little scared when you're up on a high place? (A) yes, or (B) no.

40. (Car) Do children play: (A) the games that you want, or (B) the games that they want?

(End of page 2 on answer sheet)

41. (Star) Do you like to talk to teachers? (A) yes, or (B) no.

42. (Circle) If something is true, is it: (A) correct, or (B) false?

43. (Square) Is a giraffe: (A) a jungle animal, or (B) a farm animal?

44. (House) If you had to make your bed: (A) would you listen to the radio first and then make it, or (B) would you make it right away?

45. (Bird) Can you do things: (A) better than most boys and girls, or (B) not as well as most boys and girls?

46. (Flower) Do people ever say you talk too much or call you a chatterbox? (A) yes, or (B) no.

47. (Chair) (A) Do you do very well in most things you try, or (B) do things often go wrong for you?

48. (Cat) Would you rather have: (A) a friend who can read well, or (B) a friend who is good at ball games?

49. (Wagon) (A) Does your mother let you do almost anything you want, or (B) are there lots of things she won't let you do?

(End of column on answer sheet)

50. (Elephant) Would you rather play with: (A) older children, or (B) younger children?

51. (Airplane) Which would you rather be: (A) a teacher, or (B) a doctor?

52. (Rabbit) What do shoes always have: (A) shoestrings, or (B) soles?

53. (Tree) If Mary is my father's daughter, is Mary: (A) my mother, or (B) my sister?

54. (Bicycle) Are you as good-looking as the other children in your class? (A) yes, or (B) no.

55. (Boat) (A) Are you getting along pretty well, or (B) do you have a lot of problems?

56. (Cup) Would you rather: (A) hunt for birds, or (B) draw pictures of birds?

57. (Candle) Would you rather: (A) fly an airplane, or (B) be a teacher?

58. (Hat) When you argue with people: (A) do you sometimes find out that you were wrong, or (B) are you nearly always right?

(End of page 3 on answer sheet)

59. (Table) Which do you like better: (A) easy arithmetic problems, or (B) hard arithmetic problems?

60. (Shoe) (A) Are you always pretty lucky, or (B) do more bad things happen to you than to other children?

61. (Star) Do other children: (A) do what you tell them, or (B) never do what you tell them?

62. (Circle) Would you rather: (A) play a noisy game where you pretend to be wild animals, or (B) listen to a story read by the teacher?

63. (Square) (A) Are you always neat and tidy, or (B) are you sometimes careless and messy?

64. (House) (A) Would you go up to talk to a new boy or girl in your class, or (B) are you a little afraid to talk to people you don't know?

65. (Bird) Do you like to tell stories to other people? (A) yes, or (B) no.

66. (Flower) Do you have: (A) just a few friends, or (B) a lot of friends?

67. (Chair) (A) Do people mostly keep their promises, or (B) do they mostly not?

68. (Cat) (A) Are you always very careful how you move, or (B) do you sometimes rush around when you play and knock things over?

69. (Wagon) When you are angry: (A) do you sometimes yell and stamp your feet, or (B) do you just try to forget about it?

(End of column on answer sheet)

70. (Elephant) Do you like: (A) moving pictures of bad men, or (B) happy moving pictures?

71. (Airplane) Does your mother think you are: (A) good most of the time, or (B) hardly ever good?

72. (Rabbit) Do people ever say you're stuck-up? (A) yes, or (B) no.

73. (Tree) Would you rather: (A) climb a tree, or (B) look at a book?

74. (Bicycle) Would you rather look at: (A) comic strips that are funny, or (B) comic strips with a lot of fighting and shooting in them?

75. (Boat) Which do you like better: (A) cats, or (B) dogs?

76. (Cup) (A) Are grown-ups always happy to listen to you, or (B) do they get angry when you talk?

77. (Candle) Would you rather: (A) play a noisy game, or (B) look at a book by yourself?

78. (Hat) At school: (A) can you answer quickly, or (B) do others seem to answer before you?

79. (Hammer) If people wanted you to do something you did not want to do: (A) would you get angry, or (B) would you just go along?

80. (Car) Would you rather tell your mother and father: (A) about school, or (B) about a game you played with your friends?

(End of Part A_1 of test)

Part A_2

1. (Star) When you lose a game, are you: (A) sad, or (B) angry?

2. (Circle) Do you think about school: (A) a lot, or (B) not much?

3. (Square) Do you think people ever say bad things about you behind your back? (A) yes, or (B) no.

4. (House) Which would you like better: (A) to hear stories about bears, or (B) to have bears here right now?

5. (Bird) Which do you like better: (A) comic books, or (B) the books you have in school?

6. (Flower) When the doctor or nurse sticks a needle into you, do you: (A) sometimes feel sick in your stomach, or (B) never feel sick in your stomach?

7. (Chair) (A) Do you wish school would not be such a bother, or (B) is school all right as it is?

8. (Cat) Would you rather: (A) run, or (B) sit still?

9. (Wagon) Do you usually: (A) finish your work on time, or (B) need more time?

10. (Elephant) If people don't want to do the same things as you: (A) does it make you mad, or (B) do you just do what they want you to do?

(End of column on answer sheet)

11. (Airplane) Do you feel that school work is (A) too hard, or (B) too easy?

12. (Rabbit) Do you ever do things you should not do? (A) yes, or (B) no.

13. (Tree) Would you rather: (A) build things with your friends, or (B) build things by yourself?

14. (Bicycle) Would you rather: (A) listen to a story, or (B) watch two dogs fight?

15. (Boat) When your mother tells you that you can't do something, do you want to do it even more? (A) yes, or (B) no.

16. (Cup) Would you rather pet: (A) a dog, or (B) a cat?

17. (Candle) Are you good: (A) because you like to be good, or (B) because you get in trouble if you are bad?

18. (Hat) Is it sometimes hard to get people to understand what you are saying? (A) yes, or (B) no.

19. (Hammer) When you get hurt: (A) do you sometimes cry, or (B) do you just try to forget about it?

20. (Car) (A) Do you make your bed in the morning, or (B) does your mother make your bed?

(End of page 1 on answer sheet)

21. (Star) Do you ever talk back to your mother? (A) yes, or (B) no.

22. (Circle) Would you rather: (A) play with other children, or (B) make something with blocks and metal parts?

23. (Square) Is a pretty picture: (A) beautiful, or (B) ugly?

24. (House) Is a daisy: (A) a tree, or (B) a flower?

25. (Bird) (A) Can you read well, or (B) do most children read better?

26. (Flower) Do you ever feel like crying when you see something sad in the movies? (A) yes, or (B) no.

27. (Chair) Would you rather play: (A) school, or (B) cowboys and Indians?

28. (Cat) Would you rather: (A) watch people dancing, or (B) hear a story about airplanes?

29. (Wagon) Which do you like better: (A) really doing things yourself, or (B) hearing stories about what a girl or boy does?

30. (Elephant) Can other people do things: (A) better than you, or (B) not as well as you?

(End of column on answer sheet)

31. (Airplane) Would you rather talk to: (A) your father, or (B) your mother?

32. (Rabbit) What does a car always have: (A) a radio, or (B) an engine?

33. (Tree) Jane is older than Helen. Helen is older than Alice. Who is older: (A) Jane, or (B) Alice?

34. (Bicycle) Do you know any children who are so dumb that it's no fun to play with them? (A) yes, or (B) no.

35. (Boat) Does the teacher think you are a nuisance? (A) yes, or (B) no.

36. (Cup) (A) Are other children always nice to you, or (B) do they sometimes pick on you?

37. (Candle) Do people ever call you naughty and mischievous? (A) yes, or (B) no.

38. (Hat) Do you like to climb trees? (A) yes, or (B) no.

39. (Hammer) Do you generally do: (A) what others want, or (B) what you want?

40. (Car) Are you pretty good at: (A) everything, or (B) just a few things?

(End of page 2 on answer sheet)

41. (Star) Would you rather: (A) be in a play, or (B) make something out of wood?

42. (Circle) Is a rapid horse: (A) a fast horse, or (B) a slow horse?

43. (Square) Is satin: (A) cloth, or (B) paper?

44. (House) Does your mother say you take a long time to get things done? (A) yes, or (B) no.

45. (Bird) Is your school work: (A) better than most of the others', or (B) worse than most of the others'?

46. (Flower) (A) Do you seem to be always having accidents, or (B) do you never have accidents?

47. (Chair) When you're excited, do you: (A) keep still, or (B) jump about?

48. (Cat) Would you rather: (A) look at some nice pictures in a book, or (B) make something out of wood?

49. (Wagon) (A) Are you stronger than other children, or (B) are they stronger than you?

(End of column on answer sheet)

50. (Elephant) Would you rather be: (A) a mechanic, or (B) an actor?

51. (Airplane) Would you rather: (A) have a new baby come to live with you, or (B) have a little dog come to live with you?

52. (Rabbit) Which of these things are clothing: (A) glasses, or (B) trousers?

53. (Tree) Harry is taller than John. John is taller than Bill. Who is shorter: (A) Harry, or (B) Bill?

54. (Bicycle) Do you feel cheerful and happy: (A) most of the time, or (B) not much at all?

55. (Boat) (A) Can you sit still for a long time, or (B) would you rather be doing something?

56. (Cup) Would you rather: (A) play a ballgame, or (B) fly a kite?

57. (Candle) Would you rather: (A) hunt wild animals, or (B) collect pictures of them?

58. (Hat) Which would you rather do: (A) play with other children, or (B) build something by yourself?

(End of page 3 on answer sheet)

59. (Table) Do you get tired: (A) all the time, or (B) not much at all?

60. (Shoe) When someone does something bad to you: (A) do you just forget about it, or (B) is it hard to forget about it?

61. (Star) (A) Do you have a lot of fun, or (B) do things sometimes go wrong?

62. (Circle) Do you like: (A) loud music, or (B) soft music?

63. (Square) How much are you scared of animals and things in the dark? (A) a lot, or (B) not much at all?

64. (House) Do you like camping out at night? (A) yes, or (B) no.

65. (Bird) (A) Are you happy to stay with little children, or (B) won't you stay with them?

66. (Flower) When someone gets into trouble at home, do you get scared? (A) yes, or (B) no.

67. (Chair) Have you got: (A) lots of energy, or (B) not much energy?

68. (Cat) Do you usually: (A) put your clothes away at night, or (B) just leave them anywhere?

69. (Wagon) When your mother calls, do you get out of bed: (A) after a little while, or (B) right away?

(End of column on answer sheet)

70. (Elephant) Is the school day: (A) too long, or (B) too short?

71. (Airplane) If the work at school were harder, would you: (A) do it, or (B) not do it?

72. (Rabbit) When you are learning something new, do you feel: (A) nervous, or (B) happy?

73. (Tree) (A) Do you ever get into fights, or (B) do you always keep out of them?

74. (Bicycle) When you start to say something: (A) do grown-ups always listen to you, or (B) do they do all the talking?

75. (Boat) (A) Do you have days when everything goes wrong, or (B) are you happy all the time?

76. (Cup) When you lose a book, do you: (A) cry, or (B) just laugh?

77. (Candle) When you want to say something: (A) do you just say it, or (B) do you think it over first?

78. (Hat) Are you: (A) lucky, or (B) unlucky?

79. (Hammer) If your friend broke a promise, would you: (A) get cross with him, or (B) forgive him?

80. (Car) (A) Can you wait a long while for play time, or (B) do you get fidgety?