A PROGRAM FOR THE TREATMENT OF NOCTURNAL ENURESIS

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Enuresis is a well-known problem of childhood. Although it has a long history of incidence, a method which leads to permanent cure has not been found yet. The present study attempts to investigate the effectiveness of a treatment program developed for nocturnal enuretic children. The notable feature of the program is that it involves both psychodynamic a behavioristic principles. Eighteen children who were between the ages of 4 and 12 were used in the study. There were 8 males and 8 females. The treatment was given to one group of children while it was withheld from a control group. It was hypothesized that there will be a significant decrease in the number of bedwettings in the treatment group, compared to the control group. The results obtained from the treatment group were compared with the spontaneous recovery rate of the control group. The treatment group showed a significant decrease. Since, six months later, relapse was observed in a number of subjects, some factors should be given more consideration in the application of the proposed program.

A PROGRAM FOR THE TREATMENT OF NOCTURNAL ENURESIS

A characteristic unique to the human race is prolonged childhood with consequent extended dependency on adults. The newborn human being needs caretakers in order to survive and grow physically and psychologically. The needs of an infant are satisfied immediately by his parents without any demands made upon him. However, as a child grows older, he is confronted with the expectations and restrictions of his parents. Toilet training may be said to be the first occasion where children are required to conform to adult behavioral standards, thus it is a significant event for young children and their parents.

Toilet training includes both bladder and bowel control. Since the present study deals only with bladder control, the term "toilet training" within the text refers to bladder training.

Bladder and bowel control are achieved not only by the maturation of the necessary muscles, but also by training initiated at a time when the child is most ready to learn these particular habits (Yörükoğlu, 1978). A mother's timing of toilet training is influenced by her "personal needs, familial, social or medical conventions (A. Freud, 1973). According to Spock (1976), after 15 months a child is ready for toilet training and the pr er time to begin training a child is between the ages of 18 to 24 months.

Parents use different "common sense" methods (e.g. removing diapers, frequently reminding the child to void) to train their children to control micturition. Whatever method they use, most parents eventually succeed in training. However, some fail and their children continue wetting after the age at which voluntary bladder control is usually achieved. These are the parents who tend to seek professional assistance.

Enuresis is an old problem. Pierce (1975) examining the history of enuresis, finds that this problem can be traced back to 1500 B.C. The historian Pliny, who lived in 23-79 A.D., mentions a variety of prescriptions for bedwetting, which was a well-known problem in his time (Pierce, 1975). As Pierce puts it, despite its long history, a method for the management of enuresis which always leads to success is still unknown. Furthermore, the frequency and presence of this disorder in all countries and in every socioeconomic level make it to be considered one of the most important pathologies of childhood (Pierce, 1975).

The purpose of the present study is to find out the effectiveness of a treatment program for nocturnal enuresis. This program was developed from the theories of behavior modification and psychoanalysis. Before presenting this study, previous literature on enuresis is reviewed. The literature review consists of five parts. In the first part, some definitions and categories of enuresis are presented. In the second part, the incidence of enuresis is reviewed briefly. In the third part, major theoretical positions regarding the etiology of enuresis are cited. In the fourth part, some major treatment approaches are examined. Lastly, in the fifth part, the aim and the rationale of the study are stated.

Definition and Categories of Enuresis

Enuresis may be defined as "the habitual, involuntary discharge of urine after the age of three" (Coleman, 1976, p. 548).

To quote Katz and Zlutnick's definition: "When nocturnal or daytime wetting occurs beyond the age of three to four years, with some degree of frequency and in the absence of organic or congenital abnormalities the condition is clinically known as enuresis" (1975, p. 35).

Pierce (1975) defines enuresis as "bedwetting or clothes wetting in persons over the age of three who fail to inhibit the reflex to pass urine when the impulse is felt during waking hours and and those who do not rouse from sleep when the process is occurring during the sleeping state" (p. 2117).

Yates (1970) distinguishes subcategories of enuresis, since different categories might need different explanations. The differentiation Yates finds most important is between "primary" and "secondary" enuresis. According to Yates, the primary, persistent or continuous enuretic is the one who has never gained control of nocturnal micturition. Four-fifths of all enuretics are accepted to be of the primary type (Pierce, 1975). When a child loses control of nocturnal micturition after a period of dryness, the condition is called secondary, acquired or discontinuous enuresis (Yates, 1970).

The second distinction Yates makes is concerned with the regularity of enuresis. A child may be regularly or intermittently enuretic. A simila distinction made by Crosby (1950) helps to explain these two terms. Crosby

defines "regular enuresis" as the case in which a child does not have any dry nights unless some precautions are taken, in contrast to the "sporadic" (i.e. intermittent) enuretic child who has varying internals of continence.

Thirdly, Yates distinguishes between enuretic children with organic abnormalities (such as a physiological disease affecting the muscular processes involved in micturition) and enuretic children without any organic malfunction. It is generally agreed that enuretics suffering from organic diseases do not exceed 10 percent of the total enuretic population (Geppert, 1953; Yates 1970).

The Incidence of Enuresis

Before mentioning any percentages regarding the frequency of enuresis, it is worth noting the difficulties in determining its prevalence among children. Yates puts forth three reasons for this entanglement. According to him, the first reason is that various authors use different criteria in their definition of enuresis. Some define a child of 5 as an enuretic, who wets once a week, while some others consider this frequency at that age as normal.

The second reason Yates proposes is that studies on enuretics usually rely on the verbal reports from the parents rather than on direct observatic Parents may give distorted information about the events that have taken plac in the past.

As to the third reason, Yates argues that samples of enuretics studie

by various experimenters are biased. These studies are carried out on children who come to clinics. Yates believes that parents' opinions regarding enuresis as a nuisance differ widely. Thus, some parents may take their children to a clinic, because they wet once a week, while some others may not regard their children's daily wetting as a problem.

Pierce (1975) acknowledging that enuresis occurs in all countries, in all socioeconomic levels, in both sexes and afflicts those of normal and subnormal intelligence, lists the reasons he considers important for the difficulty in epidemiological research. He explains that since enuretics are studied by different specialist (pediatricians, urologists, psychologists, and social workers), each see only a part of a whole population of enuretic children. Furthermore, there have not been any attempts to gather information from all of those specialists. According to Pierce, another barrier in epidemiological understanding is the "reluctance, indifference and shame" of parents in talking about this problem and making it a major complaint.

After mentioning the difficulties met in estimating the percentage of children with enuresis, some of the studies which try to determine the incidence of bedwetting among children can be reviewed.

According to Aksüyek (1970), in general, enuresis is seen in 5 to 15 percent of all Turkish children. Observing Turkish primary school children, Yörükoğlu (1978) states that approximately 10 to 15 percent of all primary school children continue bedwetting. This percentage decreases as the child grows older and in adolescence it is about 2 percent (Yörükoğlu, 1978). Geppert (1953) marks that enuresis is a major problem in the United States, and 16 percent of the child population is estimated to be enuretic.

In relation to the sex difference in the incidence of enuresis, there is a generally held belief that boys are twice as likely to be enuretic as compared to girls (Pierce, 1975; Starfield 1972; Yörükoğlu, 1978). This might be due to the different social attitudes in rearing boys and girls. Girls learn earlier, because social norms expect them to be tidy, which encourage an early gained mastery of bladder control (Pierce, 1975). According to Pierce, another reason is that, in general, girls submit more easily to training than boys. The third reason Pierce proposes is that males may be more prone to all kinds of illness, so they are more often brought to clinics where enuresis may be discovered incidentally in anamnestic interviews.

Theoretical Positions Regarding the Etiology of Enuresis

The theoretical approaches to the etiology of enuresis may be broadly classified into three categories: 1) Medical and psychiatric formulations; 2) Psychodynamic formulations; and 3) Behavioristic formulations.

Medical and psychiatric formulations

Medical and psychiatric formulations of enuresis cluster around three major views: 1) Enuresis results either from organic or physiological disturbances; 2) Enuresis results from a developmental lag; and 3) Enuresis is part of a personality syndrome.

Enuresis, as an organic or physiological disturbance. As to this view, Mahony (1971) advocates that enuresis results from a "complex organic

lower urinary tract disorder usually associated with on obstructive lesion of the vesical outflow tract" (p. 958). Out of 223 enuretic children, 146 boys and 77 girls, referred to Mahony's clinic, 96 percent of the boys and 97 percent of the girls had an obvious or potentially obstructive lesi of the vesical outflow system.

Another exponent of this view, Arnold (1968) proposes that two factors may be responsible for enuresis. These are, a disease in the urin system (i.e. urethral lesions) and depth of sleep. He hypothesizes that if a disease exists in a child of deep sleeper, the resultant condition is enuresis. If a child with light sleep is affected with a disease in the urinary system, "nocturia" (i.e. frequent voiding at might occurs).

Pierce's (1975) approach is somewhat different from the above menti views. In explaining the pathophysiology of enuresis, he proposes three possible factors, which are bound together by the nervous system. He call these factors "strands". Strand 1 refers to the genitourinary tract facto strand 2 refers to the sleep physiology factors, and strand 3 refers to th water regulation factors.

In relation to the genitourinary tract factors (i.e. strand 1), enuresis is considered as a failure in obtaining bladder enlargement. Investigation of genitourinary tracts of enuretics reveals that they have a small functional bladder capacity. According to Pierce, as a child acquires control over the necessary muscles to inhibit micturation reflex his bladder capacity also increases.

Pierce explains strand 2 by relating bedwetting to deep sleep. He

mentions two widely held beliefs to illustrate his point. Investigators and most of the mothers report that when an enuretic child is made to get up after the occurrence of bedwetting in order to change his clothing, he is still in a state of deep sleep. The second evidence Pierce gives for the validity of strand 2, is the rare occurrence of bedwetting during rapid eye movement sleep, the stage of sleep in which the subject is relatively wakeful and having eye movements which are associated with high dream recall.

Strand 3 refers to the altered body-water turnover and disturbed night-day rhythm of urine. A children in this condition may excrete larger volumes of urine than he has taken some hours before going to sleep. Pierce adds that for the present, it is not possible to locate specific brain sites that may "orchestrate" these 3 strands.

The explanation that deep sleep is the cause of enuresis is found acceptance among some other writers too. Among these Yörükoğlu, states that approximately half of the enuretic children are deep sleepers. In a deep sleep state, either sphincter muscles are relaxed or stimulation for urination cannot awaken the child, which results in bedwetting (Yörükoğlu, 1978).

A study by Boyd (1960) casts doubt on the validity of this view. Boyd comparing the awakening times of enuretic and non-enuretic children, found no significant difference in the time required to awaken these two groups of children. Another writer, Kessler, in a statement which confirms Boyd's results, notes that "enuretic children sleep through the feelings of bladder tension, but otherwise they wake easily" (1966, p. 120).

As can be seen, studies on the depth of sleep as a causative agent in

enuresis give contradictory results. At this print, it does not seem safe to conclude that enuresis results from deep sleep.

Enuresis, as a developmental delay. Among the writers who advocate that enuresis results from a developmental lag, Muellner (1960) makes the following assertion: All children start with a small bladder which they enlarge spontaneously, but enuretic children have a tendency to have small bladders for their age and size and void frequently during the day.

"Enuresis" (1960) supports Muellner's argument. In this article, although the effects of genetic and environmental factors are not dissented, the primary consideration is given to delayed maturation of the nervous system as a possible cause of enuresis. As there are children who learn to sit, walk, or talk later than others, so there may also be children who are late in acquiring bladder control. To prove this assertion, other observations on enuretics are given-deep sleep, increased incidence of behavior disorders, and "immaturity of electroencephalograph".

Barbour, Borland, Boyd, Miller and Oppé (1963) are also in favor of the view that enuresis is a disorder of development. They base their argument on the observation that there seem to be no apparent cause for the problem, and children grow out of it in time.

Werry (1965) reviewing the idea that the developmental delay manifest in enuresis may be the result of the slower rate of maturation of the parts of the central nervous system concerned with control over micturition, expresses that it is not possible to prove or disprove this hypothesis at the moment, because maturation in the cortex continues up to adolescence. Furthermore, he states that if this were the case, other signs of delayed

developmental functions should be found in enuretic children, which he was unable to pinpoint in his study.

Enuresis, as a part of a personality syndrome. Exponents of this view believe that enuresis cannot be seen as a sole problem in a child, but it is found with some other personality traits.

Beverly asserts that incontinence is only one manifestation of a general behavior problem. In his observations on 250 enuretic children, Beverly found the following characteristics: Nearly all of them were nervous; they showed infantile habits such as thumb-sucking, nail biting and babyish speech; they usually had school problems; a large percentage of them were dietetic or constipated; they were fearful and had scarry dreams; they lacked a sense of security and self-confidence; and they were usually found to be jealous.

Kanner (1957) did not observe enuresis as an isolated symptom: 32 percent of his cases had temper tantrums; 24 percent bit their nails; 12 percent were fearful; 10 percent were encopretic; and 6 percent were thumb-suckers.

Werry (1965) raises an argument against the above view, and claims that although the number of emotionally disturbed children among enuretics might be larger than among non-enuretics, this excess is usually small, and the majority of enuretic children are, in fact, psychologically normal. To prove his assertion, Werry compared a group of enuretic children with non-enuretic controls who were siblings of enuretic subjects. He found that while 45 percent of enuretics presented psychiatric symptoms, 55 percent of them did not have emotional disturbances.

Yates (1970) cautiones against the too ready acceptance of the view that enuresis is part of a personality syndrome. The first point he makes is that, in many studies biased samples are used. In those samples, usually the major reason for bringing the child to a clinic is not enuresis, but some other problem. The existence of enuresis is discovered incidentally during the anamnestic interview. Many enuretic children, with or without a personality disturbance, are not referred to a clinic, so it is difficult to talk about those children.

Another debatable point about the personality studies on enuretic subjects is that when enuresis persists over a long period of time, parents' disapproval of the condition creates difficulties and conflicts in the child which result in personality deficiencies (Yates, 1970).

A third point Yates makes about the weakness of personality studies on enuretics is that enuresis in fact, may be a reaction to longstanding personality difficulties.

As reviewed in this section, although some authors believe that enuresis results from an organic lesion or a disease in the urinary system, it is generally agreed that the percentage of enuretic children with an organic disease is less than 10 percent (Geppert, 1953; Yates, 1970). Small bladder capacity, deep sleep, altered body-water turnover and disturbed night-day rhythm of urine were mentioned among the causes of enuresis, but the validity of them have not been proved completely yet. Another suggestion also leads to controversial opinions among the writers on the topic. This is: Enuresis is due to a developmental lag. As to the studies of enuresis as a part of a personality syndrome, they need further consideration,

because it is not clear whether enuresis causes these symptoms or they cause enuresis.

Psychodynamic formulations

According to the authors who accept this position, enuresis is an overt symptom of some basic underlying disturbance. However, there is little agreement on the nature of this basic disturbance.

S. Freud explains secondary enuresis as follows "bedwetting of this kind has, to the best of my knowledge, no more likely cause than masturbation, a habit whose importance in the etiology of bedwetting in general is still insufficiently appreciated" (1977, p. 111).

Fenichel (1945) agrees with Freud that enuresis is a substitute of suppressed masturbation. He writes that "Infantile (nocturnal or diurnal) enuresis is a sexual discharge. Urinary excretion originally served as an autoerotic activity which gave the child urethral-erotic (and cutaneous) satisfaction.... If however, an already trained older child returns to this form of infantile satisfaction, it is no longer autoerotic; it is connected with fantasies concerning objects. If it is no longer performed actively and with conscious sexual pleasure, but happens against the individual's will, it certainly may be called a conversion symptom. Between the infantile autoerotic wetting and the later symptom of enuresis there was a time of masturbation; and the enuresis represents a substitute and equivalent of suppressed masturbation. In some cases it is actually possible to demonstrate that a prohibition of masturbation served as a stimulant in the direction of the development of enuresis as a substitute behavior" (1945, p. 232-233).

Fenichel also notes that various other wishes are also involved in bedwetting. Bedwetting may express the sexual fantasies appropriate for the opposite sex. Girls may wish to urinate like boys of whom they are jealous, since boys have penis. For boys "urinating passively" may give the pleasure of enjoying a female trait. Enuresis may also express the wish to be a baby again. It may begin after the birth of a sibling. Since babies get most of the attention of the parents, the child regresses to earlier stages of development. It may also have an aggressive component toward parents; as if the child says "I will take the privileges of a baby, which you deny me" (Fenichel, 1945, p. 233).

Katan (1946) distinguishes certain groups of enuretics according to the nature of the "trauma" they have. The first group of enuretics consists of children who regress after the loss of a love object. If the beloved one is replaced by another suitable object, the child will cease bedwetting in order to gain love. In the second group, the symptom is initiated by the birth of a sibling. As the newborn baby gets a great deal of attention from his mother, the child shows a regression in order to receive the mother's attention. In the third group, children start wetting after the discovery of the differences between the sexes, through observing either a naked child or an adult. In another group of children, an "operation trauma" may cause bedwettings.

Kessler (1966) summarizes three common dynamic patterns which may operate singly or in combination in an enuretic child. The first one is that enuresis is a regressive phenomenon initiated either by the birth of a sibling or a separation from a loved person. The second pattern Kessler

proposes is that enuretics may be confused about their sexual identity, since they believe that they have "damaged genitals". This point is in agreement with Katan's observations that in all enuretic cases, there is a fantasy that the genitals are damaged and cannot retain urine. The third pattern Kessler offers is that enuresis has an aggressive purpose which expresses child's resentment towards his parents.

Smith (1972), like Katan and Kessler, explains enuresis as a regressive phenomenon. Since a newborn baby attracts the interest of his parents, a child may resort to bedwetting in order to regain the love of his parents.

Mowrer and Mowrer (1975) review the possible causes of enuresis proposed by various writers. They maintain that in order to socialize their children, parents use various prohibitions and injuctions which lead to frustration in the child. As a result, children feel resentment and hostility towards their parents. They live in an environment in which open expression of hostility towards parents is prohibited. Thus, in order to defend their individuality, enuretic children resort to "slowness in the acquisition of socially approved habits of elimination". So, bedwetting may be a form of self assertion in the children as well as an effective out for their resentments. As they do the act in sleep, they cannot be held responsible. It is clear that if they did the same thing while awake, they would be punished (Mowrer and Mowrer, 1975).

McGuinness' (1953) explanation is quite similar to Mowrer and Mowrer's. According to him, enuresis may be an "aggressive act in a submissive child",

and it may arise from fear, envy, hatred and inferiority feelings. Enuretic child protests against his parents by bedwetting of which he is the sole master.

Mowrers noted that in 2 of 30 children on whom they made their studies, they observed aggression to an important degree. In other subjects, some element of hostility seemed to exist to a greater or lesser degree. Thus, Mowrer and Mowrer believe that in any kind of treatment, a child's hostile feelings towards his parents should be changed. For any training procedure to run smoothly and its results to be permanent, an affectionate bond between the parents and the child should be established.

Blum's view is quite different from the ones reviewed above. Blum (1970) analyzing the mother of three enuretic children, claims that the mother's unconscious conflicts stimulated enuresis in her daughters. According to Blum, the mother herself had an intense desire to wet, and she resolved her conflicts by having her daughters wet for her. She managed this by telling them stories and her dreams in which her urinary fantasies were manifested, and by her inconsistent bladder training. During analysis, it was revealed that although she urged her daughters to achieve control by witholding fluids at night and waking them up before going to sleep, she was never rejecting and was tolerant towards their problem.

Pierce (1975) makes a similar remark that although parents of enuretics may show dissatisfaction about enuresis verbally to the child, they may communicate "even delight" at the behavior.

Summarizing the views argued above, psychodynamic authors can be

divided into three, according to whether they believe: 1) enuresis is a form of repressed sexuality; 2) enuresis is a form of expression of aggress feelings towards parents; and 3) enuresis is a regression to an earlier level of development. Also, Blum's study must be given credit, in which he explains how parents foster enuresis in the child.

Behavioristic formulations

Behavioristic views regard continence as a conditioned response. So, enuresis, according to the exponents of this view, is a habit deficienc

Crosby (1950) asserts that continence is an expected development, and conversion from incontinence to continence occurs naturally. In order to understand better how Crosby explains the failure of this natural conver process, first the acquisition of the control of micturition should be reviewed. Crosby's explanation is as follows: An infant cries when he wets, because he is disturbed by the wet state. This wet state acts as an inhibitory stimulus causing an unconditioned response to inhibit continuati of urination. As the child wets, this inhibition is reinforced and the volume of urine necessary to initiate urination increases also. Increased bladder tension stimulates sleep centers to disperse sleep. So, a child can sleep without wakening when the bladder tension is low. But, when bladder tension reaches a point where reflex voiding is necessary, sleep centers are acted upon and the sleep is dispersed. Crosby goes on to argue that there are two kinds of essential enuresis; a) the simple type of essential enuresis, and b) the complicated type of essential enuresis. He explains the simple type of essential enuresis as the case in which filled bladder initiates micturition before the child awakens. A child wh

wets his bed because he is tired is an example of this type. According to Crosby, the simple type of essential enuresis is not common. In the complicated type of essential enuresis, the child is conditioned to urinate to various stimuli other than bladder tension. Light, noise or physical disturbances may cause micturition. Also, when a child is repeteadly awakened by the parents for urinating a delayed conditioned response may occur after an interval of sleep.

Mowrer and Mowrer (1975) divide the present writers on the subject into two. The writers either believe that; a) enuresis is a continuation of "physiological incontinence of infancy", which is the result of inadequat training,or b) it is on expression of emotional needs which the child cannot gratify during waking hours. Mowrer and Mowrer hold that emotional factors may cause enuresis, but these factors cannot explain it fully. In their opinion, faulty habit training is the predominant factor in large number of cases, and a contributing factor in many other instances. They believe that acquiring dryness against the natural micturition reflex is a feat, so children need help to achieve success in this habit. Training methods may prove useless for some children and bedwetting occurs. But, Mowrer and Mowrer do not explain how and why this failure occurs in some children while others succeed.

Geppert (1953) seems to support the view that enuresis is a learning problem, because he expresses that the majority of enuretic children are those who simply never have been able to respond to the stimulation of a full bladder by awakening.

Yates (1970) puts forth three propositions to explain the essence

of his approach. These propositions are:

a) The voiding reflex is a powerful, natural reflex, and it is essential for survival in the newborn child.

b) The growing child is faced by the problem of developing higher nervous centers by both maturation and learning, which will bring about the control of this natural reflex.

c) Since the achievement of urinary control is a high level and complex skill, it is natural to find some children who have not been able to achieve this control.

Yates mentions 4 aspects of micturitional control. These are: Inducing voluntory urination, inhibition of micturition, the control during sleep, and conditioning to situational stimuli. Yates asserts that inducing voluntary urination involves both maturation and conditioning. But, the process is self-learned and parental efforts may have an effect only on the drive level of the child. Detrusor[x] tension becomes a conditioned stimulus for muscular responses resulting in micturition and these muscular responses in turn, become an unconditioned stimulus for detrusor contraction. For inhibiting urination Yates asserts that high-level inhibitory controlling centers must develop. The transfer of daytime control of voiding to sleep and ability to awaken when reflex voiding is possible is also a complex process which involves maturation and learning. But, Yates does not make clear how this learning takes place. In the fourth aspect, the role of conditioning and parental training becomes more apparent. A child is

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[x] Muscle in the bladder wall adjusting its tone to the volume of urine in the bladder.

trained by his parents to urinate when he sees a toilet even the wish to urinate is not high. In this case, environmental cue (i.e. the sight of the toilet) summates with the bladder tension and produces the wish to micturate. It is obvious that although Yates believes that conditioning is important in the acquisition of the control over micturition, he does not explain clearly how this process occurs.

Young (1965) puts forth another proposition. He suggests that Yerkes-Dodson law[x] is relevant to the achievement of urinary control. Given that achievement of continence is a high-level skill, Young states that high drive levels interfere with the initial acquisition of this skill. Furthermore, when the skill is achieved, but not completely, if high drive levels are introduced, the skill will break down. Young concludes that strict training of children or punishment for wetting make it more difficult f child to achieve dryness and it produces a reversion in children who have achieved some degree of urinary control.

Reviewing the behavioristic approaches to the etiology of enuresis, one point becomes obvious. All of the writers assert that control of micturition is a high level skill and the development of cortical centers are as important as the process of conditioning. But, most of the writers do not give clear explanations of how this conditioning process occurs.

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[x] The Yerkes-Dodson Law states that high levels of motivational arousal (for ex: anxiety) facilities learning of an easy task, but hinders the learning of a difficult one.

Treatment of Enuresis

There is a variety of methods used by various professionals for the treatment of enuresis. These methods will be reviewed in four categories in this section: 1) Medical therapies; 2) Psychoanalytical and other verbal therapies; 3) Behavior therapies, and 4) Other specific remedies.

Medical Therapies

Medical approaches to the treatment of enuresis can be summarized under two subheadings. The first one of these is surgical operations and the second is drug treatment.

Surgical interventions. Some urologists (Arnold, 1968; Mahony, 1971) argue that enuresis is due to a disorder (usually a structural lesion) in the urinary system, and assert that operations are necessary for its cure. Because urologic treatment is beyond the scope of this study, it is not reviewed here. But, it is worthwhile to note Smith's claim that since operations are traumatizing, they may intensify anxieties and fears of those enuretic children who already have problems. He adds that urological operations should not be applied unless there is a definite local lesion.

Drug treatment. Two kinds of drugs which have different effects are extensively used in the treatment of enuresis. These are amphetamines (stimulants) and trycyclic antidepressants, primarily imipramine (i.e. Tofranil).

It is generally agreed that stimulants lower the depth of sleep, and make it more likely for the child to respond to bladder fullness and urge to void, while imipramine relaxes the detrusor muscle so that the bladder can expand more before voiding (Doleys, 1978). Accordingly, children who use amphetamines are likely to awaken to void during the night, while children taking imipramine can sleep through the night without voiding (Doleys, 1978).

Hodge and Hutchings (1952) used amphetamine sulphate in the treatment of enuresis. They gave the drug to one group of children while another group received inert tablets. The group treated with amphetamine sulphate showed improvement, but the other group did not. During drug treatment, Hodge and Hutckings substituted inert tablets in some of their subjects. They observed a regression to the original enuretic state in these children. Later, when the drug was given, they improved again. Thus, Hodge and Hutchings concluded that improvement was due to amphetamine sulphate.

Poussaint and Ditman (1965) examined the effect of imipramine hydrochloride (i.e. Tofranil) in the treatment of enuresis. They compared the effects of imipramine and placebo. Poussaint and Ditman found that imipramine was superior to placebo in decreasing the frequency of bedwetting in enuretic children. After eight weeks of treatment, when they increased the dosage of imipramine, many children who had shown little or no improvement during the eight week study improved with increased dosage.

According to Starfield (1972), imipramine gives better results than other drugs and placebo. Starfield regards most of other drugs not being better than placebo. She reports that in general, twenty to thirty percent

of children using imipramine get cured and another twenty to thirty percent show improvement.

Some contradictory evidence comes from Drooby (1964), who found that imipramine treatment was not curative. In his study, Drooby observed that although during imipramine administration enuresis ceased completely or almost completely, when it was witheld, enuresis recurred.

In another study, when Drooby withdrew imipramine after a year of use, thirty percent of his subjects remained free from enuresis. This percentage was the same as the percentage of children who overcame enuresis in an untreated control group. As a result of his studies on imipramine treatment, Drooby concludes that imipramine relieves enuretic children and their family during the treatment, but it does not bring about permanent cure.

Another study which is in agreement with Drobby's conclusions was carried out by Stewart. According to Stewart (1975), treatment with imipramine might lead to a remission in the incidence of enuresis, but not to a complete cure. However, the drug might be used for temporary relief with children going to a camp or to stay with grandparents.

Two aspects of drug treatment receive attention from various writers. These are high relapse rate after the treatment and side effects of the drugs during the treatment.

As regards to high relapse rate, Poussaint and Ditman (1965), being in favor of imipramine treatment, insist that if the drug is withdrawn gradually no relapse occurs. But, Starfield (1972) holds that even with this care, the relapse rate is considerable.

The relatively common psychological effects of the drugs on children still present a controversy among writers. An important percentage of children treated with imipramine are said to become nervous and irritable, and have difficulty in sleeping (Stewart, 1975). Restlessness, fearfulness and concentration problems on school work are also among the side-effects of the drug. On the other side Poussaint and Ditman claim that although imipramine may cause some subjects to become more irritable, this effect is minimal.

Doleys (1978) acknowledges that among drugs only imipramine is superior to placebo. But, even through the use of this drug, the relapse rate is high. Starfield (1972) cautiones against the frequent prescription of imipramine. She notes that before prescribing imipramine, physicians should consider carefully whether the drug, which may cause mood alterations, is advantageous over other means of treatment.

In general, although some studies show that drug treatment leads to improvement in enuresis, its effect is not permanent. Most experimenters agree that it does not cure bedwetting completely and when it is witheld relapse occurs.

Psychoanalytic and other verbal therapies

In this section, psychoanalytic and other verbal therapies are reviewed briefly.

Psychoanalysis. Child analysis as a subspeciality of psychoanalysis appeared on the psychotherapy scene in 1920's. Up to this time, psychoanalys had been confined mainly to young adults and to the treatment of neurosis.

After the twenties its scope was widened and began to be applied to other ages as well as to other forms of disturbance (A. Freud, 1971).

Two cases of enuresis treated successfully with psychoanalysis are reviewed by Katan (1946). One of these cases was treated by Van Meurs and the other by the child's mother who was a psychoanalyst by profession. On account of war conditions, the mother was forced to conduct brief analysis of her own daughter. Referring to these two cases, Katan calls attention to the importance of early intervention. If this is not the case, the child has to repress his feelings, conflicts and fantasies, and at the end a serious neurosis may result (Katan, 1946).

The child treated by Van Meurs (Katan, 1946) was an eight year old boy. He had begun wetting his bed after his baby sister's birth. Since his mother also needed therapy, the mother's and the child's treatment were carried out simultaneously. According to Van Meurs, the mother because of her own unconscious fears, suppressed all of the child's instinctive tendencies. The child was inhibited, and he could not express his aggression, except through enuresis. In the beginning sessions, the child talked about only the pleasant things in his life. As this was interpreted to him, he began talking about his bedwettings, his fears and his anxieties. The therapist made explanations and interpretation for the actual fears and conflicts of the child. At the end, when the child became more courageous and aggressive, he got rid of bedwetting.

Other verbal therapies. Under this heading the treatment techniques which emphasize on reassuring the child and his parents, directing child's attention on his problem, giving responsibility to him for his problem,

and trying to build up his confidence through regular discussions with the therapist are cited.

Beverly proposes that treatment of enuresis should be considered in three parts. First part consists of making the child responsible for himself; the second part consists of psychotherapy, and the third part consists of adjustment of environmental difficulties. Assuming that children stop incontinence as soon as they want to, Beverly argues that the first step should aim at making the child believe that he can stop it. Beverly's point is that many children continue bedwetting because they have been convinced that the condition is due to weak kidneys, weak bladder, etc. Therefore, psychotherapy, which is the second part of the treatment, tries to up the child's sense of security and confidence. Wrong impressions, about himself analyzed, and he is assured that nothing is wrong with him, that he can also do other children can do. The child is helped to adjust himself to the environment in which he lives. The third step consists of convincing the parents. that their child is normal. The therapist investigates the parents' own difficulties that they may reflect to the child and give instructions to the parents about child rearing practices. In a hundred cases in which Beverly employed the above mentioned technique, 31% of the patients were cured, 33% improved, 7% were unimproved, and for 10% no report could be obtained for reasons like refusal of treatment or sickness.

A similar perspective in adopted by Pierce. According to Pierce (1975) psychotherapy of enuresis involves encouragement and patience both in the "consultation room" and at home. The therapist and the parents must indicate that they have confidence in the child, that he can cease bedwetting

As a part of the treatment, the child should be made to fell that he is helping himself. Pierce agrees with Beverly that for successful results in psychotherapy, first of all, the wish of the child to continue the symptom should be changed to the belief that he can cease the habit.

Another study on enuretics was conducted by Marshall, Marshall and Lyon (1973). They developed a treatment technique called "responsibility-reinforcement". In developing their technique, they made use of both Glasser's "reality therapy" and behavior modification principles. Reality therapy emphasizes on the patient's assuming responsibility for his own behavior. Techniques of positive reinforcement and response shaping from behavior modification were also used jointedly. Although their technique involved principles of behavior modification, since their emphasis was on giving responsibility to the child for his problem, this technique is reviewed here.

Marshall, Marshall and Lyon's basic assumption is that the child himself should want to change and take active responsibility for achieving this goal. With this aim, they use three basic techniques. They are: 1) Having the child keep a progress record; 2) response shaping, and 3) "sensation awareness". These 3 techniques need elaboration: 1) The child records dry and wet nights on a calendar. He puts a star for dry nights, and records the events, which he feels may have influenced his wetting for wet nights. The authors argue that this progress record with periodic discussions with the physician helps the child to realize the conditions affecting his problem behavior which can be controlled. 2) Another technique is "response shaping" in which each successive level of improvement is

rewarded toward a given goal. Applied to this situation, sleep intervals of the child is increased gradually. For this purpose, an alarm clock is set to awaken the child at longer and longer intervals. 3) The third technique they use is sensation awareness. Marshall, Marshall and Lyon assume that an enuretic child needs to become aware of the sensation of a full bladder, and of the necessity to void when this sensation is experienced. So, if the child is told to hold his urine as long as possible and then to void into a measuring cup and record the maximum volume, his awareness can be fostered. The authors argue that besides bladder enlargement which may probably occur, this method makes the child aware of bladder distension.

Marshall, Marshall and Lyon compared groups of children who received responsibility-reinforcement technique, drug therapy, conditioning therapy, and surgical treatment. Although they did not observe any statistically significant differences among these groups, the overall improvement was slightly bettter and relapse rate was lower in responsibility-reinforcement group compared to others. The authors note that this result may be due to two factors. First, this technique becomes a part of family routine, and continues long after the treatment is stopped. Second, since this treatment requires time, the time factor may itself generate cure.

Some authors draw attention to the difficulties met on evaluating verbal therapies. Among them, Starfield (1972) argues that when counselling and guidance are used for the treatment of enuresis, the cure rates cannot be studied, because this type of therapy is highly individualized. Although it may not always lead to success, this approach can be used as an adjunct to other kinds of therapies.

Doleys lists some factors which hinder the evaluation of verbal therapies. These are: the absence of quantitative treatment and follow-up data, the lack of an accurate description of the procedure, and the usual practice of using adjunctive therapies.

In this section, it is reviewed that child psychoanalysis attempts to cure enuresis by making explanations and interpretations to the child about his conflicts, fears, and fantasies, which may be responsible for bedwetting. When a child expresses his impulses through other means, enuresis ceases. On the other hand, other verbal therapies, on the whole, emphasize on giving responsibility and encouragement to the child, talking with him about bedwettings and changing his wish to continue enuresis. Although these measures are helpful, they do not lead to a high percentage of cure in the subjects (Beverly; Marshall, Marshall and Lyon, 1973; and Stewart, 1975).

Behavior Therapies

For a thorough understanding of the behavioral procedures used for the treatment of enuresis, the history of behavior therapy is going to be reviewed briefly.

While Wolpe (1973) considers therapeutic prescriptions involving behavior as old as civilization, behavior therapy has its conceptual origin in 1920, in Watson and Rayner's famous experiment on Little Albert. Albert was a 9 months old infant, Watson and Rayner showed Albert a white rat which aroused his curiosity. Then, in the second presentation of the rat a noise was paired, which frightened Albert, and caused him to cry. After a few

pairings, the experimenters presented the rat alone. This time, the sight of the rat was enough to make Albert cry. By generalization, he began to fear other furry objects too. After this experiment, Watson and Rayner proposed that conditioned fear might be overcome, again, by conditioning principles.

Later, the use of conditioning principles for changing behavior received wide acceptance among the experimenters. Two basic types of conditioning are used in the establishment of new responses and in the elimination of old habits. These are respondent conditioning and operant conditioning.

Respondent (also called Pavlovian or classical) conditioning "involves the modification of response the organism is innately capable of making by substituting a conditioned stimulus for the natural or unconditione stimulus" (Ross, 1972, p. 901). The autonomic nervous system is involved in the responses in question, and when emotional responses are to be attached to previously neutral stimuli, respondent conditioning is used.

In Pavlov's classifical experiment, a dog is harnassed into an experimental apparatus which permits precise administration of stimuli and measurement of responses. When powdered food is placed into the dog's mouth saliva flows. The flow of saliva is unlearned, so it is an unconditioned response.The powdered food that elicits flow of saliva is unconditioned stimulus. Then, for an example, a bright light is paired with the food. After a number of such pairings, the light alone is able to elicit the flow of saliva.

In operant conditioning the important thing is the consequence of a response. In order to change a certain behavior, the contingencies under which these consequences occur must be changed. Consequences can be positive, negative or neutral. Positive consequences strengthen the response, negative consequences weaken it, and since they have no reinforcing effect, neutral consequences result in extinction. Positive consequences may occur in two ways, namely with the presentation of a reward or termination of a noxious stimulus. Negative consequences (i.e. punishment) also occur in two ways, either with the presentation of a noxious stimulus or with the removal of a satisfying stimulation (Ross, 1972). An example of this kind of conditioning is, Skinner's experiment in which he conditioned rats to press a bar in the Skinner box, by delivering foods for the appropriate response. After a number of reinforcements (food), the rat became more likely to press at the bar than anything else.

After an overlook of the history of behavior therapies, now the application of these principles to enuresis can be discussed. In this respect, Mowrer and Mowrer (1975) and the conditioning apparatus they developed deserve special attention, because this apparatus and modifications of it are widely used. In developing their apparatus for the treatment of enuretic children who are older than 3 years of age, Mowrers' made use of classical conditioning theory. In designing the apparatus they made the following argument. In many primitive societies infants sleep in their mothers, bed. When a child urinates or defecates some response comes from the mother, because both the child and the mother are made. The act of the mother causes a disturbance in the child. In some other primitive societies

if an infant urinates or defecates, the person who is holding the child jerks him to one side to prevent soiling himself. These responses on the side of the parents awaken the child, so the child acquires urinary control. Mowrer and Mowrer assert that in civilized societies, children do not have this kind of an opportunity, thus they lack psychologically efficient conditions for the development of bladder control during sleep. They try to provide these conditions by arranging some automatic mechanical device.

Mowrer and Mowrer's device consists of two pieces of bronze screening separated by a heavy absorbent cotton fabric. The two pieces of screening are connected in series with a small battery and an electric bell. When the child who sleeps on this pad urinates a small amount of urine, the pad short-circuits and the bell rings. The bell acts as a waking stimulus, and the interval between the drop of urine and ringing of the bell is very brief. In developing the device, Mowrer and Mowrer (1975) theorized that if a child awakened just at the time of micturition, a conditioned response would develop to awaken the child to bladder fullness. They expect the child to associate bladder fullness and awakening.

To quote Mowrer and Mowrer:"Soon this connection should become sufficiently well established to cause awakening response and the contraction of the bladder sphincter to...come forward in time and occur actually in advance of the onset of urination, instead of afterwards. The conditioned contraction of the sphincter in response to bladder distention would thus tend to inhibit the occurrence of reflex sphincter relaxation during sleep and to lead to awakening when bladder pressure finally becomes sufficiently

great" (Mowrer and Mowrer, 1975, p. 54).

Awakening a child by the sound of a bell and awakening him at regular intervals have different aspects. Rémy-Roux (1908) draws attention to the importance of this difference. Parents, who have the habit of awakening their child at night, may awaken the child at a time when the need to urinate is not felt by the child at that particular time. So, this procedure habituates the child to urinate during the night. On the other hand, when Mowrer and Mowrer's device is used, the bell rings just at the onset of urination, while the bladder is still full. Since the child is awakened at the time of bladder distention, he becomes sensitized to it. Mowrer and Mowrer assert that the child's sensitization to bladder fullness later leads to the concentration of the sphincters before voiding. Thus, through the use of this apparatus, a child learns to sleep throughout the night without urinating. This point also makes this technique superior over regular nightly awakenings.

Mowrer and Mowrer used their apparatus in the treatment of 30 enuretic children who did not have any serious personality difficulties or any organic illness. Positive results were achieved in all cases. Their success criterion was seven consequtive dry nights.

By using Mowrer and Mowrer's apparatus, Geppert (1953) reported that in 38 of the 42 patients enuresis was arrested. Five of his subjects reverted to the old habit. But, four of those who relapsed responded to the repetition of the treatment and the fifth one was being treated similarly when his article was published. Seventy-four percent of Geppert's subjects were to sleep through the entire night without voiding at the end of the study.

Another method of treatment which is quite similar to Mowrer and Mowrer's device was developed by Crosby (1950). Crosby states that his treatment aims "at extinguishing any conditioned responses which initiate micturation, and at reinforcing the natural method of building up the 'inhibitory' tone, which is considered necessary for continence" (p. 538). With this aim, he developed a unit in which electrodes are attached to the loin region, and are kept in place by means of a belt. When the child micturates at night, both light and sound signal to the parents that the child should be attented to, and an electric shock is applied to the loins. Crosby used this device in the treatment of thirty five enuretic children. Out of twenty-nine children without obvious neurogenic or uro-genital complication, twenty-eight were cured, and out of six children suspected of having neurogenic bladder or other problem, four were cured.

Yates (1970) argues that Crosby's device is confounded with that of Mowrer and Mowrer's, because in both methods a bell is used to awaken the child. The results obtained by Crosby may be due to the sound of the bell, rather than to the effect of the electric shock (Yates, 1970).

Improving Mowrer and Mowrer's apparatus, Seiger (1952) treated 106 children. All the patients used the device in their homes for one month or more. Ninety four of his subjects were able to remain dry for periods of two months to many years after the treatment. Four of the subjects relapsed after dry periods of one week to 15 months. Eight of the subjects' bedwettings were reduced from nightly occurence to either twice a week or to once a month. In twelve of his subjects the treatment proved unsuccessfull.

Azrin, Sneed and Foxx (1974) object to Mowrer and Mowrer's model and argue that enuresis cannot be explained by the Pavlovian model. They state that enuresis is a learning problem in which the degree of motivation, the degree of voluntary control over urination, parental concern, the strength of alternative responses and ease of arousability from sleep are also involved (Azrin, Sneed and Foxx, 1974). Their method, which they call "Dry-bed training" is derived from an operant model. In this model, they use a urine-alarm apparatus for the purpose of arranging social and motivational factors (such as praise for a dry bed and reprimand for accidents). The dry-bed procedure requires one night of intensive training which is followed by the use of the urine-alarm apparatus for one week. During one night of intensive training the child is required to have large fluid intake before going to bed to increase the desire to urinate at night. He is awakened hourly by his parents' mild prompts to be taken to the toilet. A reinforcement for urinating in the toilet is given. The urine-alarm apparatus is used from the beginning to signal bedwetting. Whenever an accident occurs, the child is reprimanded and taken to the toilet to finish urination. When he returns to the bedroom h changes the wet sheets and pyjamas, end he is encouraged for correct toiletin

Azrin, Sneed and Foxx (1974) compared the results of their method with the results obtained by the use of urine-alarm apparatus. They found that while urine-alarm produced only a slight reduction in bedwetting during the two week period, their method eliminated bedwetting almost completely during the same period. In their study, they also tried to demonstrate that Pavlovian conditioning was not the underlying process

responsible for the effectiveness of the urine-alarm procedure.

To prove this assertion, they placed a buzzer both in the parents' and the child's room in one group of subjects, while in the second group they did not use a buzzer in the enuretic child's room. In the second group, the child did not hear the buzzer. Thus, he did not have the opportunity to associate the buzzer as a conditioned stimulus with bladder fullness. In this case, his parents came to awaken him and arranged the reinforcements. Their results showed that enuresis could be eliminated in the children who did not have a buzzer in their own rooms, just as effectively as in the children who had a buzzer in their own rooms.

Some other authors make use of conditioning principles without an electrical device. Among these Stewart (1975), explains the method he employs as follows: The child keeps a record of his dry and wet nights and he is praised by his parents and by the physician for his dryness. Stars are put on the record for the nights during which he remains dry, and he is promised to be given something he likes as he improves. The parents do not punish the child for accidents, but calmly express their hope for improvement. The child is kept responsible for changing his wet night-gown and seeing that they get washed. The physician supervises the parents, and checks the progress regularly every three to four weeks, and repeats his encouragement and reassurance. The rate of success with this kind of treatment is equal to the rate of success with placebo, and it is likely to be better than the rate of spontaneous cure (Stewart, 1975).

Another method of daytime training which also proved effective in the treatment of nocturnal incontinence was developed by Kimmel and Kimmel (1970).

Their method is very simple compared to other methods. The child is reinforced during daytime for witholding urination for a specified time, after he has informed his mother that he wants to go to the toilet. Initial delay may be as short as a few seconds, but later this may reach up to 45 minutes. Kimmel and Kimmel use simple, tangible reinforces (e.g. a candy) for witholding urination. By this method, they treated two normal girls aged four and a psychotic girl aged ten. In the normal girls, incontinence ceased within seven days, while in the psychotic child in 14 days.

Although behavior therapists claim success in their studies, psychodynamic authors object to symptomatic treatment and predict symptom substitution if a psychological disorder is treated symptomatically. The argument is the same for enuresis. But, behavioristic writers do not accept this view and predict either no change or an improvement in personality. In fact, there are many studies showing the positive effects of conditioning treatment of enuresis. To list some of them:

Werry and Cohrssen (1965) did not observe symptom substitution in any of the cases that received conditioning treatment in their study.

Mowrer and Mowrer (1975) also did not notice any evidence of symptom substitution. According to them, if any change occurred in personality as a result of the treatment, it was surely in the favourable direction.

Pierce (1975), too, agrees with the above authors. He reports that with the release of the symptom, an increase is obtained in the self-esteem of the child.

Yates (1970) concludes that successful treatment with conditioning does not result in symptom substitution, rather it leads to a dramatic improvement in the child's relationships and general adjustment.

After his study with 50 enuretics, Werry (1967) asserts that when other behavioral symptoms appear after the conditioning treatment, this is not due to the removal of the symptom (i.e. enuresis), but due to the failure of the treatment and child's discouragement.

As a summary of this section, the techniques used for the treatment of enuresis by behavior therapists can be divided into 2: 1) The methods which are based on the principles of classical conditioning. Urine-alarm apparatus and modifications of it are in this group; 2) The methods developed through the use of operant conditioning principles. Azrin, Sweed, and Foxx, Kimmel and Kimmel and Stewart have techniques of this type. These two groups of methods are found to be effective in curing bedwetting. Although psychodynamic authors predict symptom substitution when enuresis is treated symptomatically as behavior therapists do, there are many reports that do not support this view.

Other specific remedies

There are some other measures taken to prevent bedwetting, which cannot be placed into the above three categories. These are: bladder enlargement, waking the child at night, and fluid restriction.

Bladder enlargement. Some authors argue that enuresis results from a bladder of functionally small capacity. So, they propose methods of

expanding the bladder.

Yates (1975) states that in an enuretic child, the detrusor muscle fails to adapt to increasing volumes of urine and pressures, and reflex urination occurs at low volumes and pressures. According to Yates, what is achieved through the use of Kimmel and Kimmel's technique is increased functional bladder capacity to adapt to increasing volumes and pressures of urine.

Muellner (1960) also claims that enuretic children are apt to have small bladders and void frequently during the day. To enlarge bladder capacity, Muellner instructed his subjects to take as much fluid as they could during the day, and to hold urine as long as possible. The child should void into a measuring cup to see if he could hold more urine. By this method, Muellner eliminated enuresis in 30 subjects he studied. According to Muellner, in his technique the child's active participation in his training is psychologically beneficial.

Starfield and Mellits (1968) designed a study to test the hypothesis that improvement in enuresis was associated with an increase in bladder capacity. In the initial examination, they estimated the bladder capacity of their subjects. Then, they gave the following program to be applied for six months: The child was required to drink a lot of fluid and asked to hold his urine as long as possible once a day. After a long time of retention of urine, he voided into a measuring cup and recorded the amount on a calendar. On this calendar, also the wet and dry nights were checked. Aside from the technique of urine retention for a long time, the child was also required to initiate and stop his urine while he was voiding. This

helped him to develop control over micturition. At the end of the six months, Starfield and Mellits estimated the bladder capacity of their subjects again. Of the 83 subjects who returned for follow-up, 55 were said to be improved, 6 were cured, and the remaining subjects had a decrease in bedwettings, which was not significant. When they analyzed their data, they found that the subjects who did not improve in enuresis were found to have significantly less increase in bladder capacity than the children who improved.

Waking the child at night. Waking the child at night prevents the child from wetting his bed. However, this method habituates the child to urinating during the night, rather than sleeping through the night without wetting. According to Pierce, some favourable responses may be obtained by this method, not because it is effective, but because parents and child's concern are focused on the problem. Pierce, also adds that waking the child at night can be effective only in cases where the child is fully awake while he is urinating in the toilet.

Fluid restriction. Some physicians advise parents to restrict fluid intake before bedtime, but Starfield (1972) finds no evidence that this method is helpful in preventing enuresis. Rather, it may serve to increase the hostility and resentment between the parent and the child.

Herbert (1974), too, criticizes treatments which restrict fluid intake since they hinder the achievement of continence in sleep. He asserts that enuretic condition is the result of bladder's failure to fill in the normal way, thus, incontinence may also occur at nights during which there is little urine in the bladder. For that reason, the therapatic aim should

to train enuretics to hold greater and greater quantity of urine in the adder until the physiological capacity is reached.

Reviewing these three measures, it appears that only bladder ılargement leads to successful cure of enuresis. Fluid restriction, although sed widely by the parents, does not have any curative effect upon the ɔndition. Waking the child at night is also in wide use among the parents. ut, since most parents take their children to the toilet when the children re in a state of drowsiness, this method does not cure enuresis too. It only voids a wet bed.

Up to this point, four major therapeutic approaches to enuresis are liscussed. These are; medical therapy, psychoanalytic and other verbal herapies, behavior therapies, and the remaining techniques other than those hree. Medical therapy involves surgical interventions and drug treatment. he two widely used drugs (amphetamine sulphate and imipramine) are only effective uring treatment, but do not lead to permanent cure. Psychoanalysis is reported o be effective in curing enuresis but since it requires much time, it is not idely used. Other verbal therapies which employ encouragement, restoring hild's confidence, and drawing his attention to the problem pose another ifficulty. Since they are individualized, their evaluation is difficult. ehavior therapists are divided into two, according to whether they use lassical or operant conditioning principles in their techniques. Mowrer nd Mowrer's device, which makes use of the former principle obtain wide cceptance, and most writers report positive results through the use of it. he use of operant conditioning principles in the treatment of enuresis also rove to be effective.

Each of these methods have both some advantages and disadvantages. experimenters on the area prefer to employ only one of those methods. But, the number of studies which attempt to combine some elements of these different techniques is small. In this study, this attempt is made.

The Aim and the Rationale of the Present Study

The aim of the present study is to find out the effectiveness of a treatment program developed for nocturnal enuretic children. The distinctive feature of this treatment program is that it combines some elements of both behavioristic and psychodynamic approaches. The program was given to one group of children and the results of this treatment were compared with the spontaneous recovery rate observed in a control group. It was hypothesized that there will be a significant decrease in the number of bedwettings in the group that received the treatment, compared to the other group that did not receive it.

Rationale of the Treatment Program

Most psychodynamic authors agree that enuresis represents an unconscious wish which is repressed, because anxiety, aggression or guilt is associated with it. According to Kessler (1966), it seems right to assume that when the unconscious wish is strong, a therapy based on learning approach would fail. Also, when behavioristic treatment works well in a child, that means enuresis is either a result of faulty training or the precipitating unconscious wish has vanished (Kessler, 1966).

This program, while helping the child to learn to stay dry during [illegible] also attempts to lessen the degree of friction between the child

and the parents by providing the child with an opportunity to enjoy his parents' undivided attention and company. This aspect of the treatment program is also confirmed by Mowrer and Mowrer (1975) who assert that any kind of a child training process would result in activating negative impulses in the child, since training is frustrating. Thus, for any training procedure to proceed smoothy, a strong affectional bond should be developed between the parents and the child (Mowrer and Mowrer, 1975).

Basing the program on these essential points, some principles of the learning approach were used in developing the treatment program. In summary, the child was taught to awake to bladder fullness; rewards were given for dryness and withheld when bedwetting occurred, and reinforcement schedules and the time and choice of reinforcers were determined in a way that would be most effective in teaching the child this particular habit.

As can be seen, except psychodynamic approach, both classical and operant conditioning principles are used in the program. This is in accord with Ross' (1972) statement that a combination of classical, avoidance and operant factors must be used in the treatment of enuresis. According to Ross, an enuretic child is not the one who only lacks sphincter control, but also micturates with the stimulation of the filling bladder. So, the therapeutic task is to establish a new response which is antagonistic to the one that has already been established. With this aim, the child should be taught to contract sphincters for a period of time and micturate under appropriate stimulus conditions. To serve this purpose, the child should receive secondary reinforcements for not wetting his bed. This is the situation where operant factors come into play. When these reinforcements

are not given to the child, staying-dry behavior may undergo extinction, resulting in a relapse. In this case, the innate competing response of micturition in the appropriate place and time becomes prepotent again. For this reason, it is important to reinforce dry nights either by social reinforcement, such as praise or by self-reinforcement, such as pride of accomplishment (Ross, 1972).

The learning principles used in developing the present treatment program is as follows:

Awakening to bladder fullness as a conditioned response. As reviewed before, Mowrer and Mowrer theorize that if a child is awakened just at the time of micturition, a conditioned response would develop to awaken to bladder fullness. Before conditioning, an enuretic child responds to the stimulation produced by bladder distention by reflex voiding. If an awakening (conditioning) stimulus is presented just at the time of urination, the child learns to awaken and contract sphincters with the new stimulus.

In general, the mothers of enuretic children can guess when their children wet at night. Most mothers carry their children to the toilet without waking them. As a result, these children do not become aware of urinating. In the proposed treatment program, through the use of an alarm clock and other means (i.e. light, water), the child is awakened completely, and by going to the toilet by himself, he is to associate bladder fullness with awakening. This procedure also makes the child to feel responsible for his betwetting.

Reward and Punishment. Reward is a stimulus which increases the probability of a response, and the quickest way to strengthen a behavior is to reinforce it each time it occurs (Kanfer, and Phillips, 1970). This principle is made use of in the first and second week of the program as follows: For every dry night a tangible reward is given to the child. The parents' affectionate behavior for continence also serve as a reward for the child. Different reinforcements are given in every step of the program.

Punishment refers to the application of an aversive stimulus, as well as witholding a desired stimulus after a response has occurred (Kanfer, and Phillips, 1970). For punishment to be effective, it must be used on a continuous basis, because if it is applied inconsistently, its utility in suppressing undesired behavior is reduced. In the proposed treatment program a variety of punishments are used. These are; washing wet linens and night gown, waking up and visiting the bathroom at night; parents' neutral reaction when he is awakened at night, and not having parents' positive affectionate behavior on wet mornings. These are all expected to suppress the frequency of bedwettings. They also encourage the child to be conscious of his problem and be active and responsible.

Schedules of reinforcement. As reviewed in the above section, continuous positive reinforcement is given to the child for his dryness in the first week. But, it is generally held that once the desired behavior occurs at on acceptable level with continuous positive reinforcement, maintaining it at that level requires a different kind of reinforcement schedule. When reinforcement is not given to every desired response, it is called intermittent reinforcement. There are two kinds of intermittent

reinforcement schedules; ratio and interval schedules. Ratio schedules require that a specified number of similar responses occur before reinforcement is given while interval schedules require a specified period of time to pass before reinforcement is given. In the present program, ratio schedule is used. In the third week of the treatment program, the child is required to stay dry more than one night in order to get a reward. In the second and fourth weeks of the program, although for every dry night some amount of money is saved, it is given to the child only after a few dry nights.

Immediacy of reinforcement. The effectiveness of a reinforcer is a function of the temporal proximity of the behavior and the reinforcing event (Kanfer, and Phillips, 1970). Hence, maximum use can be gained by delivering reinforcers immediately after the desired behavior has occurred. As the time interval between response and reinforcer increases, the effective utilization of reinforcement correspondingly decreases.

In this program, mothers' attention is drawn to this point. The parents should withhold positive affectionate behavior as they see the bed wet, and they should be loving when they see that the child is dry. Tangible reinforces (e.g. cookies, money) are to be given immediately. Wet linens and nightgown should be washed during the following day. Wet linens should be changed by the child at night.[x]

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[x] In fact, the present treatment program requires not to change wet linens at night. If the child wets, he has to sleep on wet linen. This would serve as a punishment for bedwetting. But, since the program was to be applied in winter, the mothers would object to letting their children sleep on wet linens. Thus, a change has been made. It is assumed that making the child change wet linens and nightgown at night would also serve as a punishment.

Choice of reinforcers. The potency of a reinforcer in maintaining behavior is a function of its importance to the organism. Also, for the reinforcing value of a stimulus to be high, the amount of deprivation must also be high (Kanfer, and Phillips, 1970). Thus, in the present study, tangible reinforcements are selected according to each child's individual preference (e.g. cookie, chocolate). They are to be highly attractive to the child and not available except at the time of dryness.

Social reinforcers are also used in the present treatment program. Katz and Zlutnick (1975) consider "attention, praise, recognition, and approval" as social reinforces. According to Katz and Zlutnick, in social interaction, social reinforcers maintain human behavior. In the present program, appropriate behavior (i.e. staying dry) is fostered by praise, approval and attention on the part of the parents. In order to suppress bedwettings, after a wet night, parents are advised to withdraw their attention and express disapproval.

METHOD

Research design

The present investigation is an attempt to provide a controlled, experimental demonstration of the effects of a treatment program for nocturnal enuretic children. With this purpose, the classic two-group design, where the treatment was withheld from one group of subjects (i.e. the control group) and given to the other (i.e. the experimental group) was used. The division of subjects into experimental and control groups was made randomly.

Subjects

In choosing the subjects for the study the following criteria were considered: the subjects had to be nocturnal enuretics, between the ages of 4 and 12, of at least average intelligence[x], not to have any urological disturbance[xx], and not to have any events that disturb the family's atmosphere at the time when the program was applied.

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[x] The child's intelligence is not measured. The information obtained from the mother about the child helped to make an estimation.

[xx] The mother was advised to take her child to a pediatrician if she had not done that before.

The subjects used in the study were obtained by purposive sampling methods. They were referred.by friends and professional people (i.e. urologists, pediatricians, and school counsellors). In all cases, the referral was made on the basis of the knowledge that a new method was being used for the treatment of nocturnal enuresis.

There were 9 subjects in the experimental group and 9 subjects in the control group . As the two groups were not matched.there were differences between them. These were; the mean age of children were different (M = 8 in the experimental group, M = 6-5 in the control group), the number of boys and girls, of primary and secondary enuretics, and of children who had previous treatment were different in the two groups (See Tables 1 and 2).

Of the 18 subjects 8 were boys and 10 were girls. In the experimental group, there were 3 boys and 6 girls, and in the control group, there were 5 boys and 4 girls.

The subjects ranged in age from 4-5 to 12-1. The experimental group had on age range from 5-3 to 12-1, while the control group had an age range from 4-5 to 10-6. The mean age was 8 in the experimental group, and 6-5 in the control group (See Tables 1 and 2).

As can be seen in Tables 1 and 2,in both groups, 13 subjects had never been dry since birth (i.e. primary enuretics) whereas 5 subjects reverted to bedwetting after a period of dryness (i.e. secondary enuretics). In the experimental group, all but 2 subjects were primary enuretics. In the control group, 6 subjects were primary and 3 subjects were secondary enuretics.

In both groups, 11 subjects had not had any kind of previous treatment, while 7 subjects had been treated. Among those who had been treated before, 6 subjects had medical treatment and 1 subject was treated with urine alarm apparatus. As regards to the two groups, in the experimental group, 3 subjects had not had any kind of treatment, and 6 subjects had received medication (i.e. Tofranil) without any beneficial effects. In the control group, only one subject had had previous treatment, through the use of urine alarm. The mother of this subject reported that he was not able to awaken to the sound of the bell while using the apparatus. The number of subjects who received a kind of previous treatment was higher in the experimental group in comparision to the control group.

Among the mothers of children, 1 mother did not have any formal education, 3 mothers had primary school education, 7 mothers had primary school education, and 7 mothers were university graduates. Of these mothers, 10 were working women and 8 were housewives (See Tables 1 and 2).

On the whole, 1 of the fathers of subjects had primary school education, 1 had secondary school education, 7 had high school education, and 9 had university education.

Average level of monthly income in the experimental group was 73.777 TL., while it was 42.333 TL. in the control group. Level of income was higher in the experimental group compared to the control group (See Tables 1 and 2).

Procedure

Before beginning the treatment, an initial interview was conducted with the mothers. The program consisted of five phases and lasted five weeks. It was carried out through weekly interview sessions with the mother of the enuretic child.

The initial interview. A complete psychological interview was carried with the mother in order to understand the causes of the child's bedwetting and the dynamics of the family and to adapt the treatment program to the child's daily life (See Appendix 1 for interview format). The following points were especially stressed in the initial interview: Mother-child, and child-siblings relationships, mother's explanation of the problem, previous treatments, the kind of food the child usually ate at night, the hours when the mother and the child went to bed, and the approximate times the child was awakened by his parents for micturation at night.

Phase 1. The first week: After the initial interview, the first week's program was given to the mother at the second meeting. All the mothers were told to give complete information about the program to the subjects, their husbands and other children. If grandparents lived with the family, they were also informed by the mother about the program and asked not to interfere with its application.

Application: It was advised to give the child a separate room not to disturb other family members during the treatment. A piece of rubber mat was placed by the child under the bed linen. The mother set an alarm clock near the child's bed to awaken him at night. The hours at which the clock would ring were determined according to the hours at which the child usually urinated (i.e. if a child wetted his bed twice a night, he would be awakened twice). The mothers usually knew when their children micturated, and they were in the habit of taking them to the toilet at those hours. If they could not guess the hours, they were given a few days to awaken their children sometime at night and try to fix the approximate hours of bedwetting.

When the clock rang the mother was advised to come to the child's room and turn the lights on. If the child did not wake up by the alarm of the clock and the light, the mother was told to prod him, if this did not work, she was to sprinkle some water on his face. The mother was told not to show any signs of love and affection at that time, but to remain completely indifferent. The rationale for this behavior was to prevent nightly awakening from becoming a kind reward or punishment. The child was to be totally awake and the mother was not to help him, except turning on the necessary lights. The child had to go to the toilet by himself, urinate and return to his bed, again by himself. The procedure was the same if the child was wet at the time of getting up. In this instance, he himself changed his wet underwear and sheets. The next morning, the mother controlled the bed to see whether it was dry or wet. If it was dry, and no accident occurred at night, the child was praised by affectionate behavior (e.g. hug and kisses) and given a tangible reward which the child liked. The reward was not to be available

except in dry mornings. On the other hand, if the bed was wet, the child was made to change his wet nightgown and wet sheets, take them to the bathroom and wash them after he returned from school. The mother and the father remained somehow distant, but not harsh in such mornings. The parents' emotional reaction to continence or incontinence was to remain consistent throughout the program. Each mother, whether her child was dry or wet at night reserved half an hour for playing with her child everyday. This usually took place in the afternoons if the mother did not work, and if she did, in the evenings before dinner. Fathers were to do the same thing for 15-20 minutes each night. Each night, parents alternated in taking the child to bed.

This program went on for a week. At the end of the first week, the mother was interviewed by the experimenter and asked about the progress. If the number of accidents became less in comparision to those before the treatment, she was given the program for the second week. If there was failure (that is, the number of accidents remained the same), she was told to repeat phase 1 one more week.

From phase 1 on, to measure the degree of the mother's cooperation, she was assigned either 2.1 or 0 points after each weekly interview. "2 points" meant she followed the instructions given by the experimenter completely and applied the treatment program correctly at home (e.g. awakening the child at the proper time, giving reinforcements according to the schedule and having play-hour). "1 point" meant she followed the instructions partly. "0 point" meant either she applied the treatment procedure incorrectly or she did not follow the instructions. At the completion of the treatment procedure, the points given for each week were summed up and as a result, each mother got a score ranging from 10 to 0. The mothers who got scores higher than six were considered as "cooperative"; those who got scores lower than six were

Phase 2. The second week: Other things remaining the same, the reinforcement schedule was changed. Aside from giving a reinforcement for each dry night, the parents were to tell the child that some amount of money would be saved for each night he remained dry and it would be given to him after a few dry nights . . . (the number of days was determined by the age of the child). Then, he had the right to buy something he wanted most. By this procedure, the child was assumed to have learnt that in order to get something he liked, he had to wait and stay dry more than one night.

This phase also lasted one week. At the end of this week, in the interview, the mother was asked whether there was a reduction in the number of accidents or not. If there was a reduction, the next phase was explained, if not, she was told to apply phase 2 one more week.

Phase 3. The third week: In this phase the reinforcement schedule was changed from continuous to intermittent reinforcement. The child was not going to be rewarded every morning for his dryness as before, but a reward was to be given for every two or three dry nights.

At the end of the third week, if the mother told that the program worked successfully, next phase was applied. If not, she applied phase 3 again.

Phase 4. The fourth week: In this phase, the goal was to reduce the number of times the child awakened during a single night. Thus, waking up twice a night was reduced to once a night. Then, as the child managed to wake up only once a night, and stay dry, he was not awakened any more. For each dry night some amount of money was given to the child by his parents,

and a present was bought by the amount collected in a few days.

In case of success in this week, phase 5 was explained to the mother. If the child could not learn to sleep through the night without urinating, this phase continued one more week.

Phase 5: Termination: The child who had come up to this phase was no longer awakened by an alarm clock at night. He was expected to sleep through the night without urinating or to wake up by himself without the help of the clock and go to the toilet.

The aim of this phase was to habituate the child to remain dry without expecting a tangible reward. To this aim, the parents increased the number of dry days for giving a reward to the child. At the end of this week, the experimenter interviewed the mother and the treatment was terminated.

TABLE 1. GENERAL INFORMATION ABOUT THE SUBJECTS IN THE EXPERIMENTAL GROUP

se No	Age	Sex	Primary vs. secondary en.	Has had previous treatment?	Mother's education	Father's education	Monthly income (T
1	10-2	M	Primary	No	High School (Grad.)	High School (Grad.)	34.000
2	7-4	FM	Primary	Yes (Tofranil)	University (Grad.)	University (Grad.)	160.000
3	5-3	M	Primary	No	High School (attended)	Secondary School (Grad.)	21.000
4	12-1	FM	Primary	Yes (Tofranil)	High School (attended)	High School (Grad.)	60.000
5	8-5	FM	Primary	Yes (Tofranil)	University (Grad.)	University (Grad.)	34.000
6	9-9	M	Primary	Yes (Tofranil)	University (Grad.)	High School (att.)	25.000
7	6-7	FM	Secondary	Yes (Tofranil and Librax)	University (Grad.)	University (Grad.)	100.000
8	6-2	FM	Secondary	No	High School (Grad.)	University (Grad.)	30.000
9	6-7	FM	Primary	Yes (Tofranil)	High School (Grad.)	University (Grad.)	200.000
	M= 8						M= 73.777

TABLE 2. GENERAL INFORMATION ABOUT THE SUBJECTS IN THE CONTROL GROUP

Case No	Age	Sex	Primary vs. secondary enuresis	Has had previous treatment?	Mother's education	Father's education	Months income (T
1	4-10	FM	Primary	No	High School (Grad.)	High School (Grad.)	60.000
2	10-6	M	Secondary	Yes(Urine alarm)	Prim.School (Grad.)	High School (Grad.)	18.000
3	6-2	M	Primary	No	Prim.School (Grad.)	High School (Grad.)	18.000
4	7-2	M	Primary	No	No education	Primary (Grad.)	15.000
5	5-4	M	Secondary	No	University (Grad.)	University (Grad.)	100.000
6	4-5	FM	Primary	No	University (Grad.)	University (Grad.)	60.000
7	7-5	M	Primary	No	Primary Sch. (Grad.)	High School (Grad.)	30.000
8	5-7	FM	Primary	No	University (Grad.)	University (Grad.)	40.000
9	6-6	FM	Secondary	No	High School (Grad.)	University (Grad.)	40.000
	M=6-5						M= 42.433

R E S U L T S

The results of the present study can be grouped into four categories. In the first category, information about the number of bedwettings prior and during treatment in the experimental and control groups is stated, and these two groups are compared. In the second category, the attitude of the parents and the children toward enuresis is presented. In the third category, the factors which affected the operation of the program are stated. Lastly, in the fourth category other factors which may be relevant to the results obtained at the termination of the treatment are cited.

Table 3 shows the occurrence of bedwettings of each subject in the experimental group during the week prior to the treatment and during each week of the treatment program. The number of bedwettings was reported by the mothers. Before treatment, seven mothers had the habit of carrying their children to the toilet to have them void. Thus, they could usually prevent bedwettings from occurring. So, the number of times a mother carried her child to the toilet at night was taken as the frequency of bedwetting. The two mothers who did not have that habit were instructed to observe the frequency during the week after the initial interview (i.e. before the beginning of the treatment).

Figure 1 shows the mean number of bedwettings during each week of the program for the experimental group. The mean number of bedwettings during the week prior to the treatment was 16.3 (S.D. = 9.7). This mean was raised by the Subject 6, who had 42 bedwettings per week before treatment. The individual treatment curves of each subject in the experimental group can be seen in Figures 2 to 10.

During the first, second and third weeks of the program, since the subjects were awakened at their usual hour of urination at night, bedwettings were prevented. So, a decrease was observed in the number of wet beds. The mean was 2.3 (S.D. = 1) in the first week, 1.8 (S.D. = 1) in the second week, and 1.7 (S.D. = 1) in the third week. In the fourth week, a slight increase (Mean = 2.4, S.D. = 2) was observed in the number of accidents. Examining Table 3, it can be seen that four subjects (Subjects 4, 5, 8 and 9) had more wet beds in this week compared to the previous week. Subjects 4 and 8 showed a dramatic increase, the reasons of which will be explained later. Subjects 5 and 9 showed a slight increase which may be attributed to this particular week's program. As it was mentioned in the Method Chapter, in the fourth week the subjects were habituated either to wake up by themselves or to sleep through the night without voiding. This aspect makes the fourth week's program a little harder for the child. During the last week of the treatment, the mean number of bedwettings was 1.7 (S.D. = 2.2). Only seven subjects' scores were included in this calculation because, for two subjects, the fifth week's program could not be applied (See Appendix 2 for the detailed information about the subjects and their progress during the treatment).

To find the degree of improvement shown by the subjects in the experimental group, the difference between the number of bedwettings of each subject during the pre-treatment period (i.e. in the last week), and the number of bedwettings during the fifth week of the program was calculated. These differences were converted into percentages. The subjects who got percentages between 90 and 100 were defined as "cured". The subjects who obtained percentages between 80 and 90 were defined as "improved", and percentages less than 80 were defined as "failure" (See Table 4 for the degree of improvement each child showed in the experimental group). According to this definition, 5 subjects were cured, 1 subject improved and for 2 subjects the treatment program proved to be unsuccessful.

Table 5 shows the frequency of bedwettings in a week for the control group. This frequency constituted the first assessment. Second assessment was made five weeks later than the first one (i.e. the duration of time between the two assessments was the same both in the experimental and the control groups). It was observed that no difference existed between the two assessments in the control group (Mean = 11.6, and SD = 5.7 for both assessments).

To determine whether any change in the frequency of bedwetting in the experimental group was the result of the treatment program, a statistical comparision of the experimental and control groups was carried out. In the control group, there was not a difference between the first and second assessments while there was a difference between these two assessments in the experimental group. Wilcoxon Matched-pairs Signed-Ranks Test results

revealed that the number of accidents were significantly less for the subjects in the experimental group in comparision to controls ($p < .05$).

Since all of the mothers (i.e. both experimental and control) applied to the experimenter for their children's treatment, the subjects in the control group were to be treated after the second assessment. Five of the mothers in this group did not come to their second appointments, so second assessments of these subjects were made either by telephone or by letter. The remaining four mothers sought treatment for their children. Among these, two subjects became free of enuresis at the end of the same treatment. The other two subjects' treatment could not be completed as their mothers discontinued it.

In order to understand the results better the attitude of the parents and the children toward enuresis should be considered. These constitute the second category of data (See Tables 6 and 7).

When the mothers' reasons for enuresis were examined, the following results were obtained: In both groups, one mother attributed enuresis to deep sleep; one mother, to heredity; one mother, to heredity and small bladder; one mother, to child's being jealous of his brother; one mother to both child's feelings of jealousy and conflict between parents; one mother, only to conflict between parents; and one mother, to the child's "different interests". Eleven mothers reported that they could not think of anything as a possible cause of enuresis.

In the experimental group, 4 mothers could not attribute enuresis to anything while 5 mothers put forth some reason. According to one mother

it was due to deep sleep. One mother reported that both heredity and having a small bladder might be the cause of enuresis. Another mother suspected that the child's being jealous of his brother might result in enuresis. One mother assumed that conflict between the parents was the cause of bedwetting, while another mother attributed the condition both to the child's being jealous of her sister and the conflict between the parents (See Table 6). It was seen that the general tendency among the mothers was to attribute the cause of the condition neither to the child nor to themselves specifically.

The weekly interviews with the mothers in the experimental group revealed that the latent causes of enuresis were different from the ones proposed by the mothers. It was seen that the most frequent reason was the child's aggression toward the parents especially to his mother (Subjects 1, 2, 3, 4, 5 and 8, See Appendix 2). This aggression seemed to be due to the following factors: Belief that his sibling was loved more than he was (Subjects 3 and 5); too much conflict with the mother, because the mother was either dominating (Subjects 1 and 4), or demanding (Subject 8) type. For three subjects (Subjects 5, 6, and 7) bedwetting seemed to serve the purpose of resolving parental conflicts. For another subject (Subject 9), parents' approval of the condition seemed to foster it.

Among the subjects whose condition seemed to express their aggression toward the parents, especially to the mother, 3 (Subjects 1, 2, and 3) were cured and they were still continent in the follow-up. The other two children's treatments were terminated early since their mothers were uncooperative (Subjects 4 and 8). Two children (Subjects 6 and 7) whose condition seemed to resolve parental conflict were found relapsed in the [illegible] cured, and 1 improved at the termination of the

treatment. One child (Subject 5) whose bedwetting served a double purpose (i.e. both an expression of aggression toward the parents and resolving parental conflict) was cured, but she could not be located in the follow-up.

As regards to the reaction of the mothers toward the child's state in both groups, 11 mothers seemed to be concerned about bedwettings, but did not reveal it in order not to embarrass the child. 2 mothers were indifferent toward the problem, and 5 mothers reported that they sometimes scolded and beat their children because of the condition. This information showed that in general, the mothers tended to stay silent to the symptom and not to hold the child or themselves responsible for the child's state.

In the experimental group, the children whose mothers were concerned about the problem, either overcame (Subjects 1, 2, 3, 5, 7 and 9) the problem or improved (Subject 6) at the termination of the program. The children whose mothers scolded and beat them failed to improve at the termination (Subjects 4 and 8).

It was observed that the number of fathers who were indifferent toward the child's state was greater than the number of mothers with this type of reaction. Among 18 fathers, 8 fathers were concerned about the problem although they did not reveal it. Nine fathers were indifferent toward the problem, and 1 father scolded and beat the child when bedwettings occurred. In the experimental group, 5 fathers were concerned about the child's state, but did not reveal their concern, and 4 of the fathers were indifferent toward the child's condition. Among the children of 5 "concerned" fathers, 4 children were cured, and 1 improved. Among the children of 4 "indifferent" fathers, 2 children were cured and 2 children failed.

Since washing wet linens and clothes was a heavy burden for mothers, they tried ways in order to prevent bedwettings. Of the total subjects, 13 mothers carried their children to the toilet at night in their arms without waking them. The mothers of 5 subjects did not do anything to deal with the condition. In the experimental group, 7 mothers carried their children to the toilet at night while 2 mothers did nothing. Among the children of 2 mothers who did not do anything to prevent bedwettings, 1 was cured and the other one failed. Among 7 children who were carried to the toilet in their mothers' arms without being awakened, 5 were cured, 1 improved and 1 failed.

As to the child's reaction toward his state, in both groups 14 mothers told that their children were unhappy with their problem, and 4 mothers said that their children were indifferent toward their state. In the experimental group, among 6 children who were upset with their condition, 4 were cured, 1 improved and 1 failed. 3 children were reported as being indifferent toward bedwettings. In this group, 2 were successful in overcoming the problem at the termination of the program, and 1 failed.

As it was cited in the beginning of this section, third category of data consisted of factors which affected the operation of the program. These are as follows:

A child's motivation is very important for any kind of treatment. Except 1 child (Subject 8), all of the children were motivated during the application. Even the subjects who had been told by their mothers as indifferent toward their states were enthusiastic.

As the mother was to apply the program, her cooperation was very important too. The mothers were given points for their cooperation (See The Method Chapter). Except 2 mothers (of the Subjects 4, and 8), all showed some degree of cooperation (See Table 8). It was observed that the children whose mothers were cooperative either overcame the condition or improved. The children of those 2 mothers who were uncooperative did not improve and their treatment could not be completed.

The fathers' indifference toward the child's state was observed also during the application of the program. One of the fathers (of the subject 7) objected to the treatment at the beginning, and during the program he did not cooperate. His daughter was cured at the termination, but was found relapsed in the follow-up. 2 fathers (of the subjects 5 and 9) helped the mother in the application of the program and their children were cured. The other 6 fathers remained uninvolved in the treatment procedure. Among their children, 3 were cured, 1 improved, and 2 failed.

The program required the parents to have play hours with the child and provide reinforcements for appropriate and inappropriate voiding. Play-hours appeared to serve their expected function. They provided the parents with an opportunity to show their interest in their children. The relationship especially between the mother and the child improved. Even the children who were cold and distant towards their mothers tended to relate more. One mother (of Subject 3) reported that after the treatment his son wanted always to be with her.

The parents used social and tangible reinforcers during the program. The child saw that whenever he was dry, he was hugged, kissed and given

something he liked. Giving reinforcements had two functions: 1) The child understood that his dryness was appreciated and 2) In order to receive the same rewards again he tried to remain dry. Some children, at the beginning liked to wash wet linens, thus the mothers reported that it did not serve as a punishment for the child. But, when the child saw that he was required to wash everytime he wetted, it became a burden, thus serving to be a punishment.

All children were used either to be carried to the toilet by their parents or to sleep without awakening even if they wetted. When they were expected to awaken totally and to go to the bathroom by themselves, at first they resisted (e.g. they did not hear the alarm of the clock). But, later they began to hear the alarm and to wake up quickly.

Some events disturbed the smooth operation of the program. When an alarm clock did not work, the parents and the child could not wake up at the regular hour (Subjects 5 and 6). Some parents due to another child's illness neglected the enuretic child (i.e. they did not have play hours, paid more attention to the sick child) for a few days (Subjects 5 and 3). When this occurred a regression was observed in the child's condition. Arguments between the parents seemed to cause the child to regress to the enuretic state (Subjects 3 and 7). In one case (Subject 3) when a grandparent objected to the child's washing wet clothes, this child relapsed for a few days. But, since the mother applied the reinforcements consistently, he improved again. One parent had too much demands upon the child (Subject 8). When this occurred, especially during the program the child did not know which demand to meet, so she did not improve. One child (Subject 3) had to sleep

in the living room during the application of the program. When there were visitors, he could sleep later than his usual hour, and it was more difficult for him to wake up at night.

The fourth category of data is as follows:

To observe whether acquiring daytime bladder control early or late had any effect upon the result of therapy, subjects in the experimental group were divided into 2. The first group consisted of children who achieved dryness up to age 2, and the second group consisted of children who achieved dryness after this age. According to this criterion, there were 4 children in the first group and 5 children in the second group. In the first group, 3 children were cured (in the follow-up, one found still having control, one could not be located, and one relapsed), and 1 failed. In the second group, 3 were cured (in the follow-up 2 found still having control, and 1 relapsed), 1 failed, and 1 improved (in the follow-up, he was found relapsed).

In the Method Chapter, it was stated that there were 7 primary enuretics and 2 secondary enuretics in the experimental group. One of the secondary enuretics was cured (6 months later, found relapsed), and the other one was a failure at the termination. Among the 7 primary enuretics, 5 were cured, 1 improved, and 1 failed to improve. Three of the cured subjects were still continent in the follow-up while one could not be located. The other subjects were found relapsed in the follow-up.

Six children had been treated by Tofranil before the present treatment. Among these, 4 were cured (Subjects 2, 5, 7, and 9). Two of the children (Subjects 1 and 3) who did not have previous treatment were cured and they were still continent after 6 months. The other previously untreated child (Subject 8) did not show improvement.

TABLE 3. OCCURENCE OF BEDWETTINGS IN EVERY WEEK OF THE TREATMENT PROGRAM

(THE EXPERIMENTAL GROUP)

Case No	Number of bedwettings before treatment (during the last week)	Number of bedwettings during the first week	Number of bedwettings during the second week	Number of bedwettings during the third week	Number of bedwettings during the fourth week	Number of bedwettings during the fifth week
1	14	2	0	0	0	1
2	14	1	1	3,1 (repetition)	1	1
3	10	3	2	4,2 (repetition)	0	2,0 (repetition)
4	6	3	2	1	7,5 (repetition)	-
5	14	1	3,1 (repetition)	1	3	1
6	42	4	4	3	3	7
7	12	2	2	2	1	1
8	14	4	2	7,3 (repetition)	6	-
9	21	1	2	2	3	1
Mean	16.3	2.3	1.8	1.7	2.4	1.7
S.D	9.7	1	1	1	2	2.2

TABLE 4. THE DEGREE OF IMPROVEMENT OF EACH CHILD (THE EXPERIMENTAL GROUP)

Case No	Number of bedwettings before the treatment (during the last week) (The first assessment)	Number of bedwettings during the fifth week of the treatment process (post-treatment assessment)	Percentages of the difference between the pre-and post-treatment assessments	Degree of improvement[x]
1	14	1	92.85	Cured
2	11	1	90.9	Cured
3	10	0	100	Cured
4	6	5	16.66	Failure
5	14	1	92.85	Cured
6	42	7	83.33	Improved
7	12	1	91.66	Cured
8	14	6	57.14	Failure
9	21	1	95.23	Cured

[x]The criteria for cure where
100 % - 90 % cured
90 % - 80 % improved
80 % - less failure

TABLE 5. OCCURRENCE OF BEDWETTINGS (THE CONTROL GROUP)

Case No	The First assesment (number of bedwettings)	The Second assessment (five weeks later) (number of bedwettings)
1	7	7
2	14	14
3	7	7
4	7	7
5	7	7
6	21	21
7	21	21
8	14	14
9	7	7
Mean	11.66	11.66
S.D	5.71	5.71

TABLE 6- DATA FOR THE EXPERIMENTAL GROUP

Case No	Age	Sex	The age at which the child acquired daytime bladder control	Does the child have problems other than enuresis	Do other siblings have any problem?	The cause of enuresis according to the mother	Child's reaction to his condition	Mother's reaction to the child's condition
1	10-2	M	3	-	-	Deep sleep	Unhappy with his condition	Concerned but does not make it obvious to the child
2	7-4	F	2-6	-	-	Heredity and small bladder	Indifferent	Concerned but does not make it obvious to the child
3	5-3	M	1-6	Stuttering	-	His being jealous of his brother	Unhappy with his condition	Concerned but does not make it obvious to the child
4	12-1	FM	2-6	Too much concerned about gaining weight& steepwalking (not now)	-	Does not know	Indifferent	Scolds and beats the child
5	8-5	FM	2	Depressed	-	Her being jealous of her sister&conflict between parents	Unhappy with her condition	Concerned but does not make it obvious to the child
6	9-9	M	3	-	-	Conflict between parents	Unhappy with his condition	Concerned but does not make it obvious to the child
7	6-7	FM	1-6	Sometimes soiling	-	Does not know	Indifferent	Concernd but does not make it obvious to the child
8	6-2	FM	1	-	-	Does not know	Unhappy with her condition	Scolds and beats the child
9	6-7	FM	3	-	Bedwetting (3 years old)	Does not know	Unhappy with her condition	Concerned but does not make it obvious to the child

Father's reaction to the child's condition	The way the mother deals with the problem	Events that disturbed the operation of the program	Was the mother cooperative?	Total time of present treatment (weeks)	Degree of improvement	The results in the follow-up (after 6 months)
Concerned but does not make it obvious to the child	Carries the child to the toilet in her arms without awakening him	-	Cooperative	5	Cured	Still continent
Concerned but does not make it obvious to the child	Carries the child to the toilet at night in her arms without awakening him	-	Cooperative	6	Cured	Still continent
Indifferent	Carries the child to the toilet at night in her arms without awakening him	Arguments between the parents, grandparent's interference, sleeping in the living room, brother-illnes	Cooperative	7	Cured	Still continent
Indifferent	Does nothing	-	Uncooperative	5 (Terminated early)	Failure	Continues bedwetting
Concerned but does not make it obvious to the child	Carries the child in her arms to the toilet at night without awakening her	Sister's illness clock did not work	Cooperative	6	Cured	She could not be located
Concerned but does not make it obvious to the child	Carries the child to the toilet at night in her arms without awakening him	Clock did not work	Cooperative	5	Improved	Relapsed
Indifferent	Does nothing	Parents' arguments	Cooperative	5	Cured	Relapsed
Indifferent	Carries the child to the toilet at night in her arm without awakening her	Parents' insistence on school work	Uncooperative	5 (Terminated early)	Failure	She could not be located
Concerned but does not make it obvious to the child	Carries the child to the toilet at night in her arm without awakening her	-	Cooperative	5	Cured	Relapsed

TABLE 7- DATA FOR THE CONTROL GROUP

Case No	Age	Sex	The age at which the child acquired day-time bladder control	The cause of enuresis according to the mother	Child's reaction to his condition	Mother's reaction to the child's condition	Father's reaction to the child's condition	The way the mother deals with the problem
1	4-10	FM	2	"Having different interests"	Unhappy with her condition	Scolds and beats the child	Indifferent	Carries the child to the toilet at night in her arms without awakening her.
2	10-6	M	2-6	Does not know	Unhappy with his condition	Scolds and beats the child	Indifferent	Carries the child to the toilet at night in her arms without awakening him.
3	6-2	M	2-6	Does not know	Unhappy with his condition	Scolds and beats the child	Indifferent	Carries the child to the toilet at night in her arms without awakening him.
4	7-2	M	3	Does not know	Unhappy with his condition	Concerned, but does not make it obvious to the child	Scolds and beats the child	Does nothing
5	5-4	M	1-6	Does not know	Unhappy with his condition	Concerned, but does not make it obvious to the child	Concerned but does not make it obvious to the child	Does nothing
6	4-5	FM	3-6	Does not know	Unhappy with her condition	Concerned but does not make it obvious to the child	Concerned but does not make it obvious to the child	Carries the child to the toilet at night in her arms without awakening her.
7	7-5	M	3	Heredity	Unhappy with his condition	Concerned but does not make it obvious to the child	Indifferent	Does nothing
8	5-7	FM	2	Does not know	Indifferent	Indifferent	Indifferent	Carries the child to the toilet at night in her arms without awakening her.
9	6-6	FM	2	Does not know	Indifferent	Indifferent	Concerned but does not make it obvious to the child	Carries the child to the toilet at night in her arms without awakening her.

TABLE 8. The degree of the mothers' cooperation (Experimental group)

Case No	The score the mother obtained during the program	How was she considered?
1	9	Cooperative
2	9	Cooperative
3	10	Cooperative
4	1	Uncooperative
5	7	Cooperative
6	10	Cooperative
7	9	Cooperative
8	5	Uncooperative
9	10	Cooperative

FIGURE 1. The mean number of bedwettings during each week of the program for the experimental group (N=9)

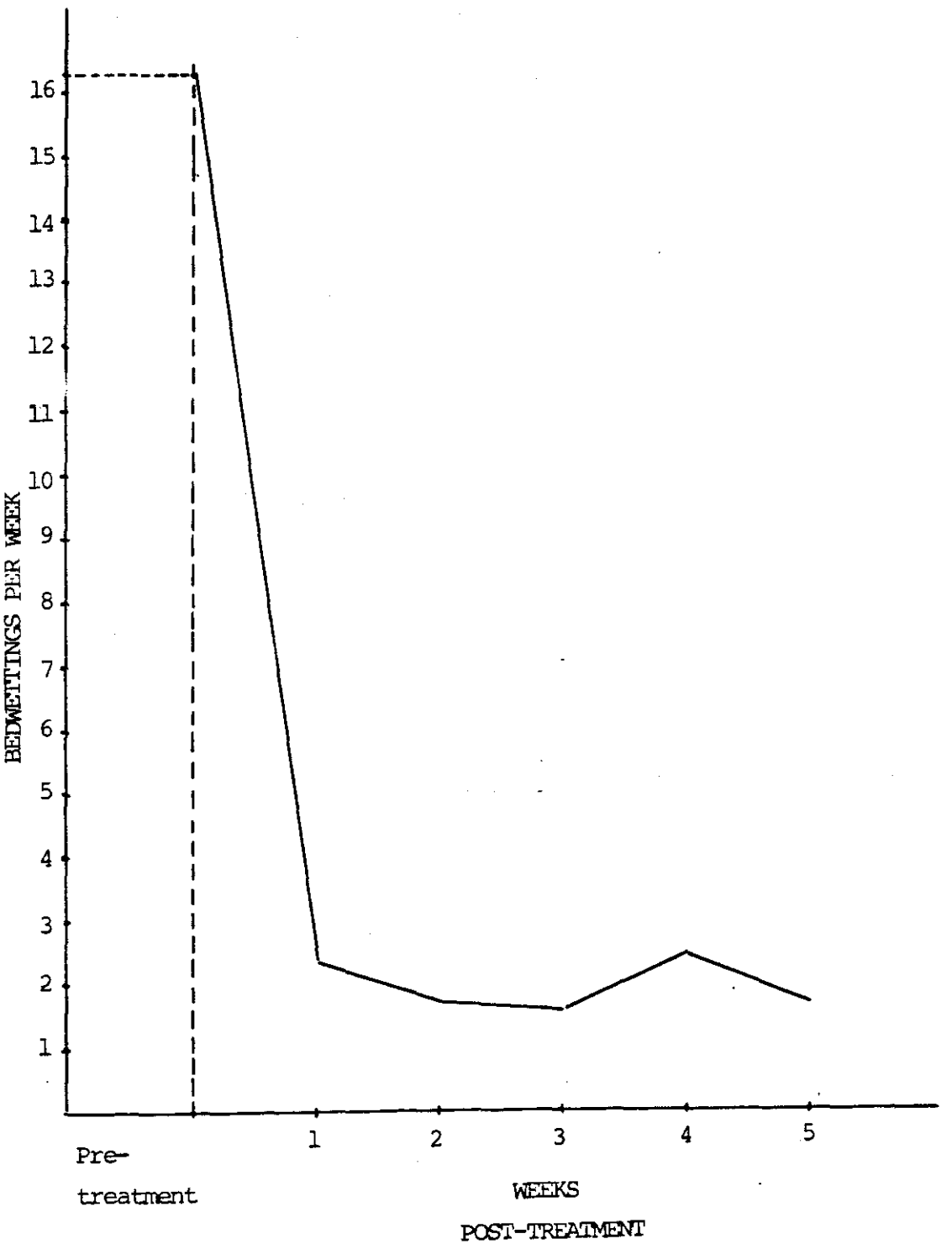


FIGURE 2. The individual treatment curve of Subject 1.

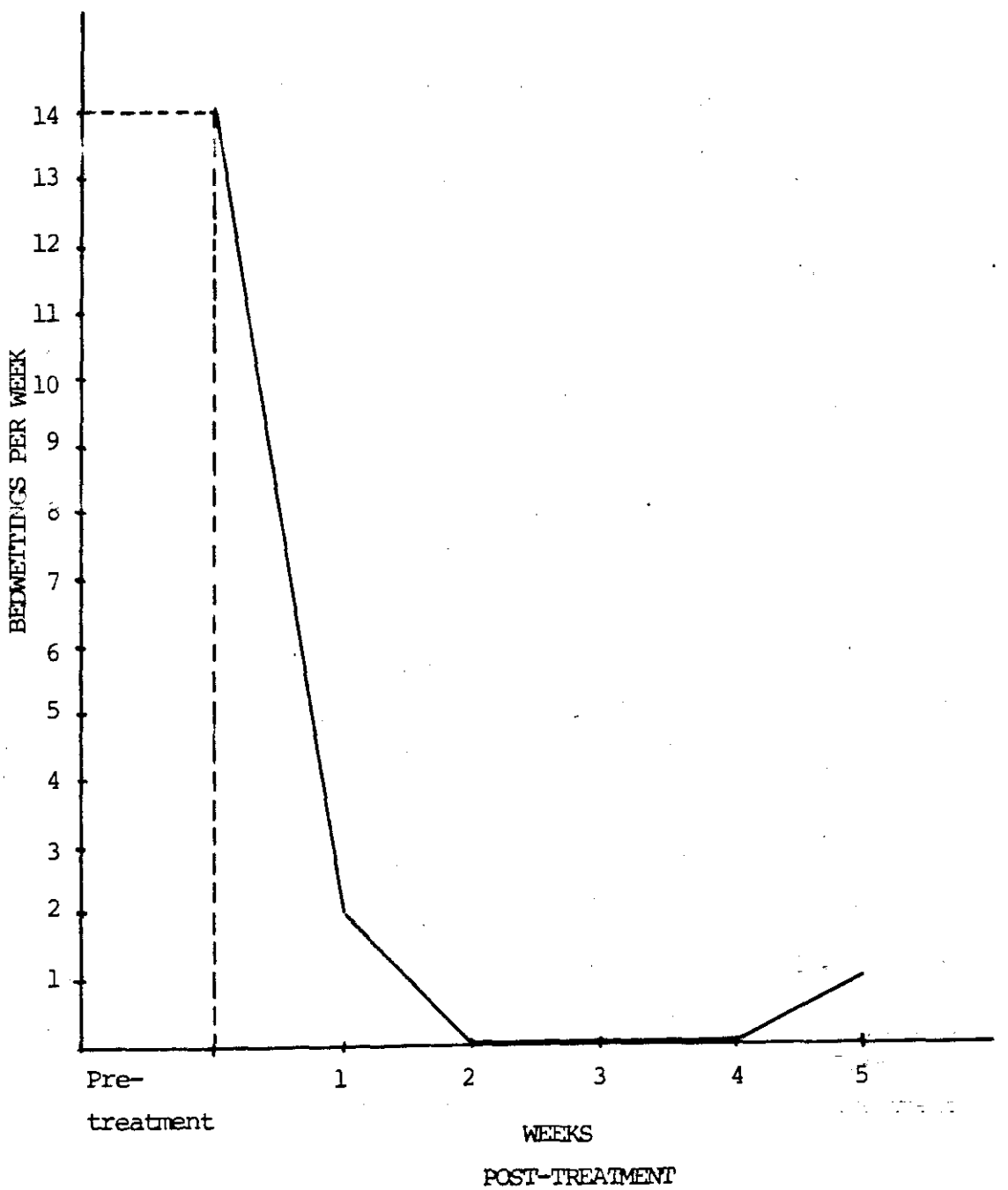


FIGURE 3. The individual treatment curve of Subject 2.

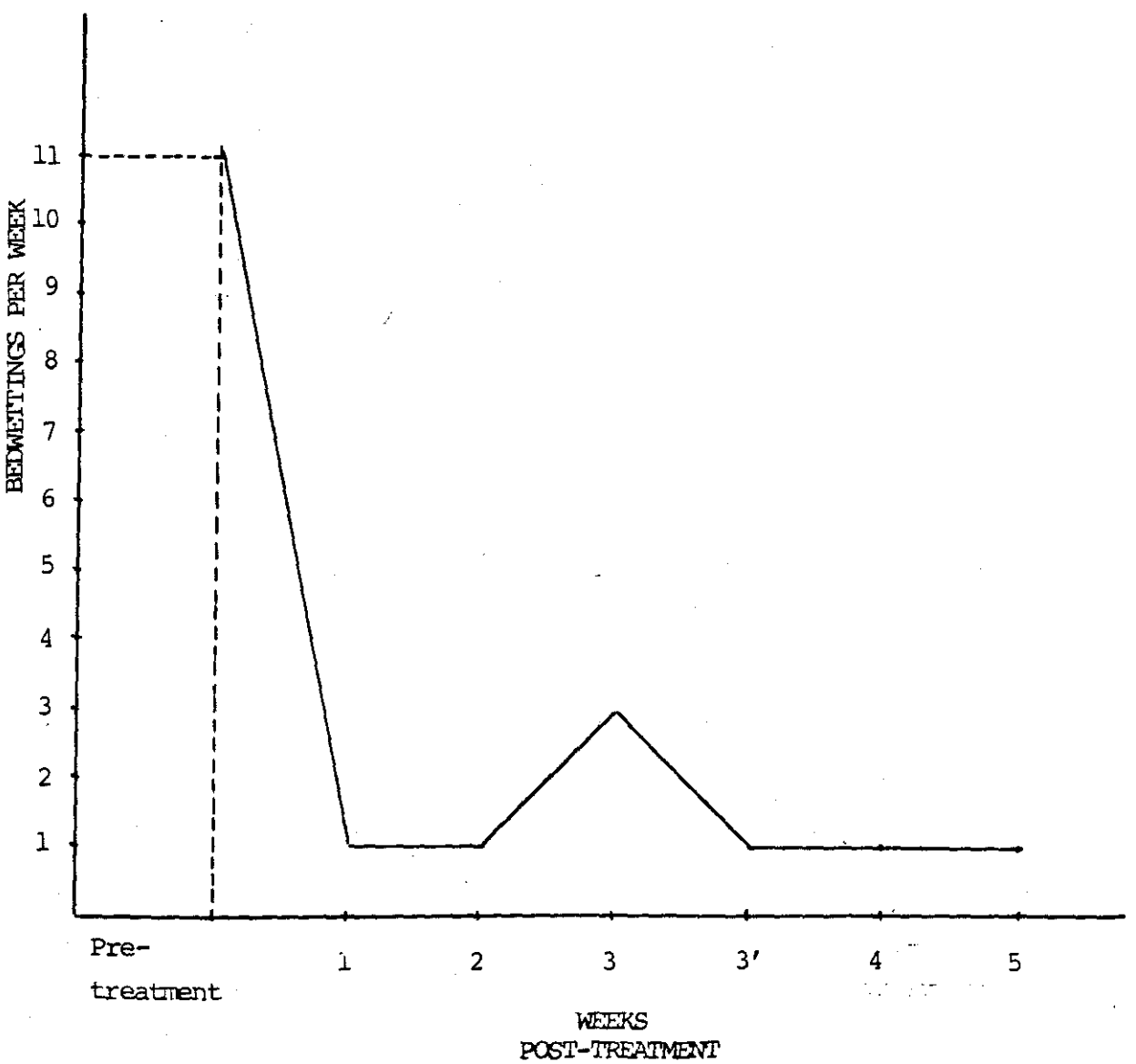


FIGURE 4. The individual treatment curve of Subject 3.

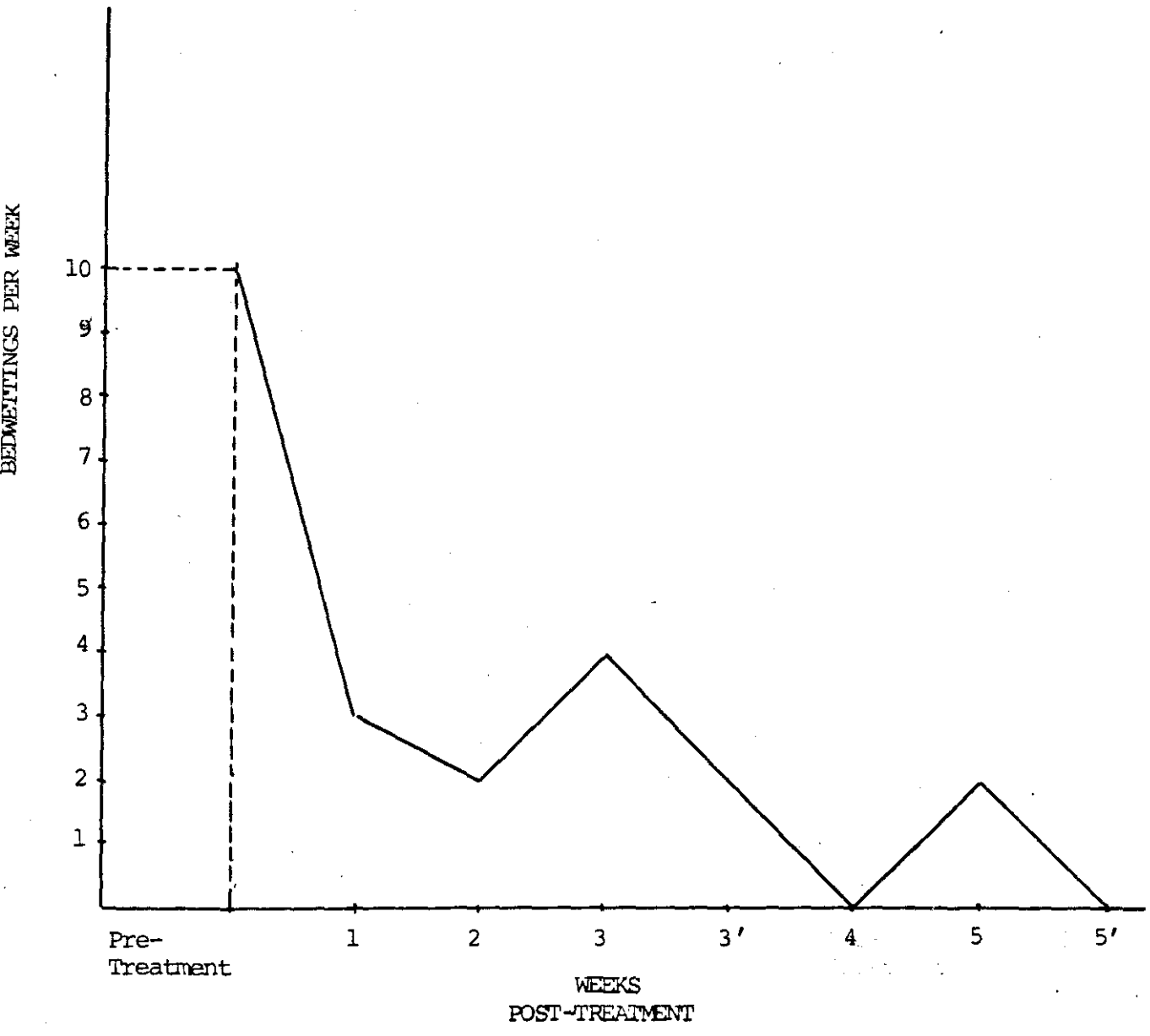


FIGURE 5. The individual treatment curve of Subject 4.

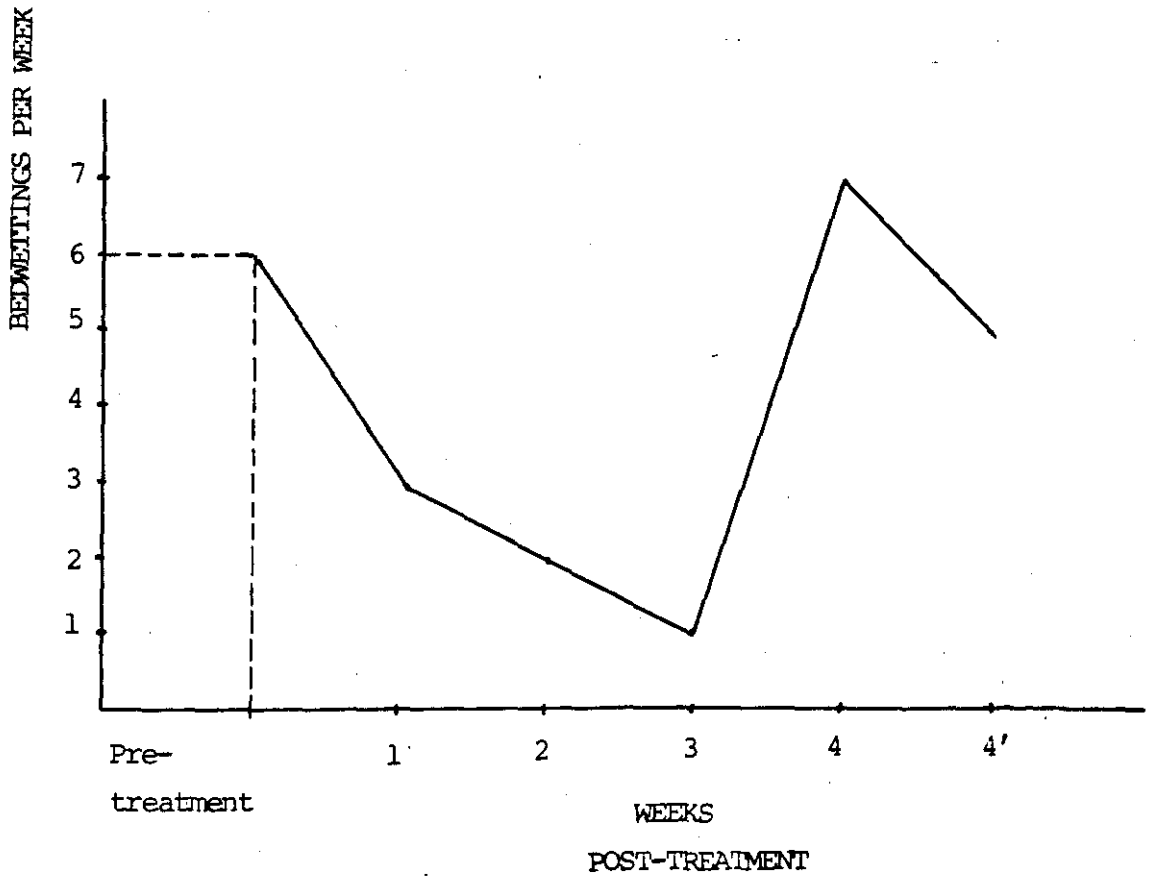


FIGURE 6. The individual treatment curve of Subject 5.

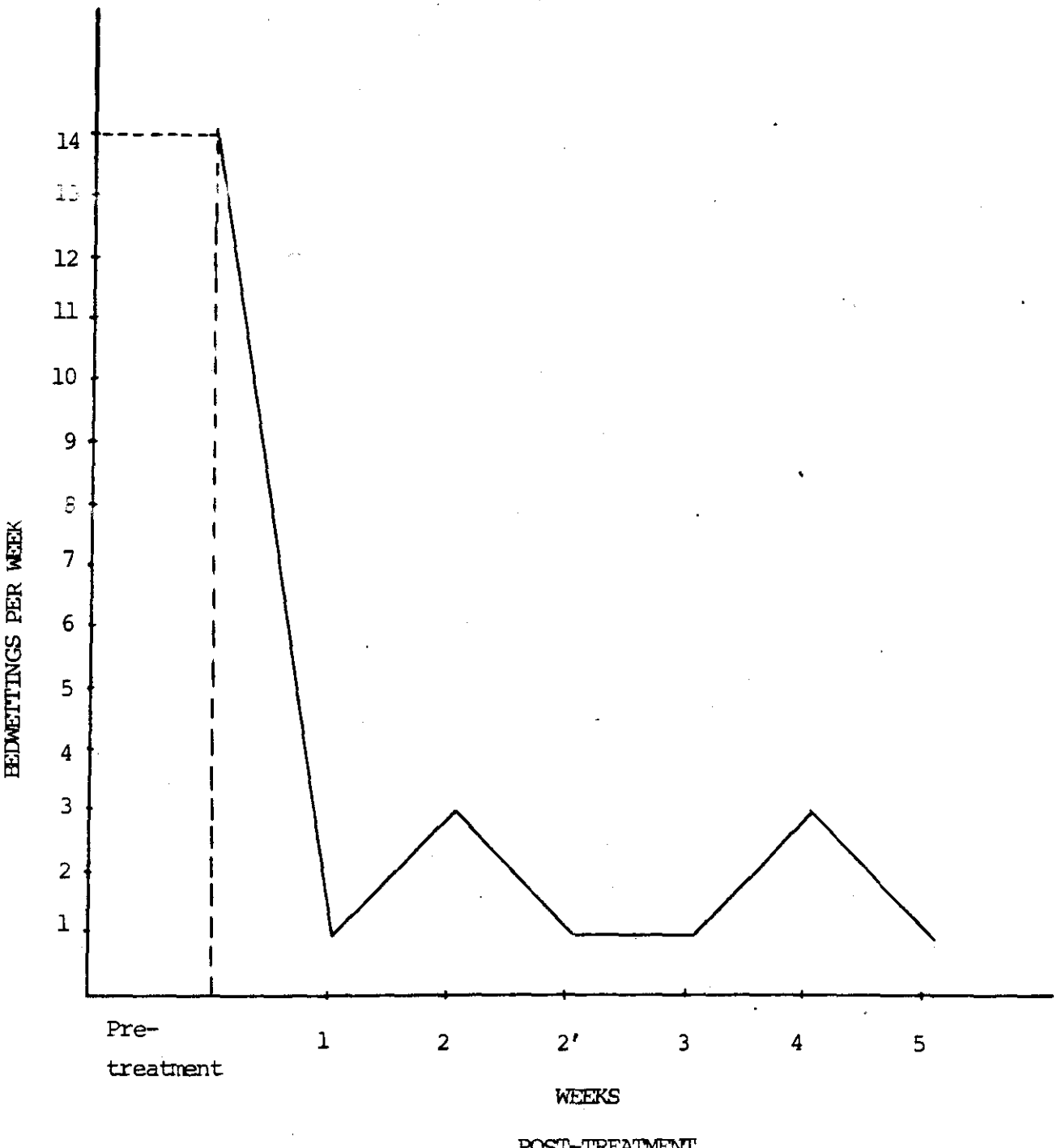


FIGURE 7. The individual treatment curve of Subject 6.

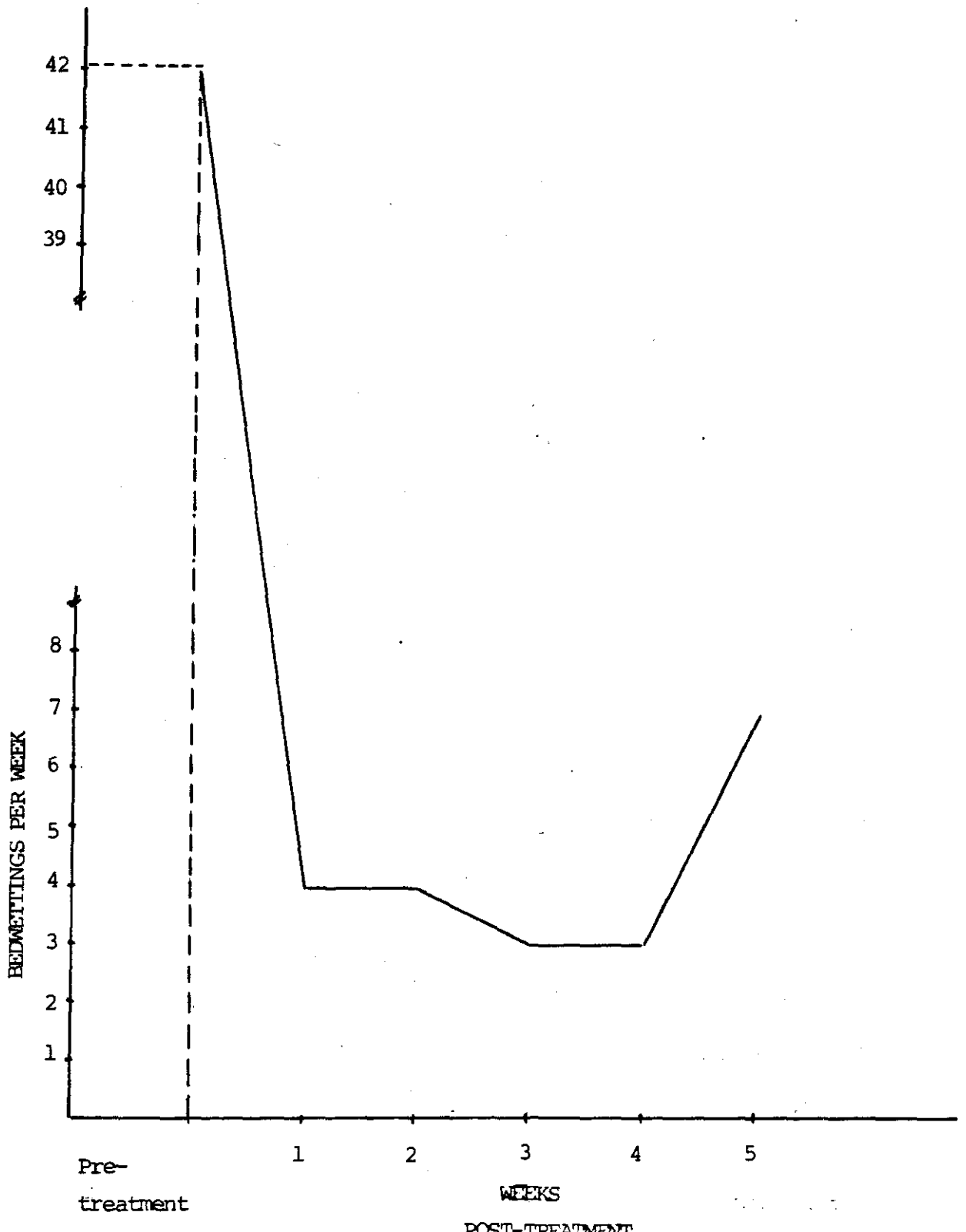


FIGURE 8. The individual treatment curve of Subject 7.

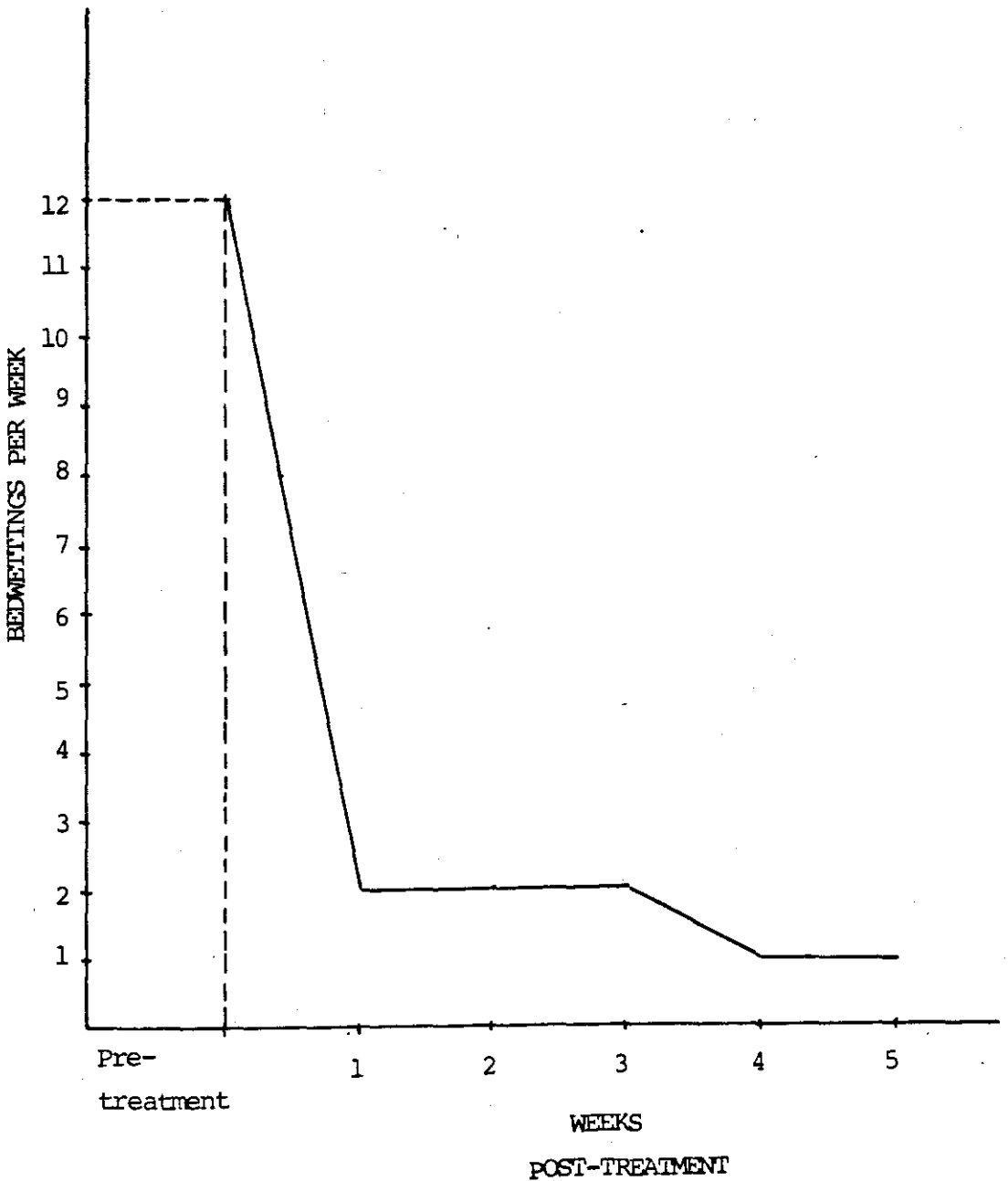


FIGURE 9. The individual treatment curve of Subject 8.

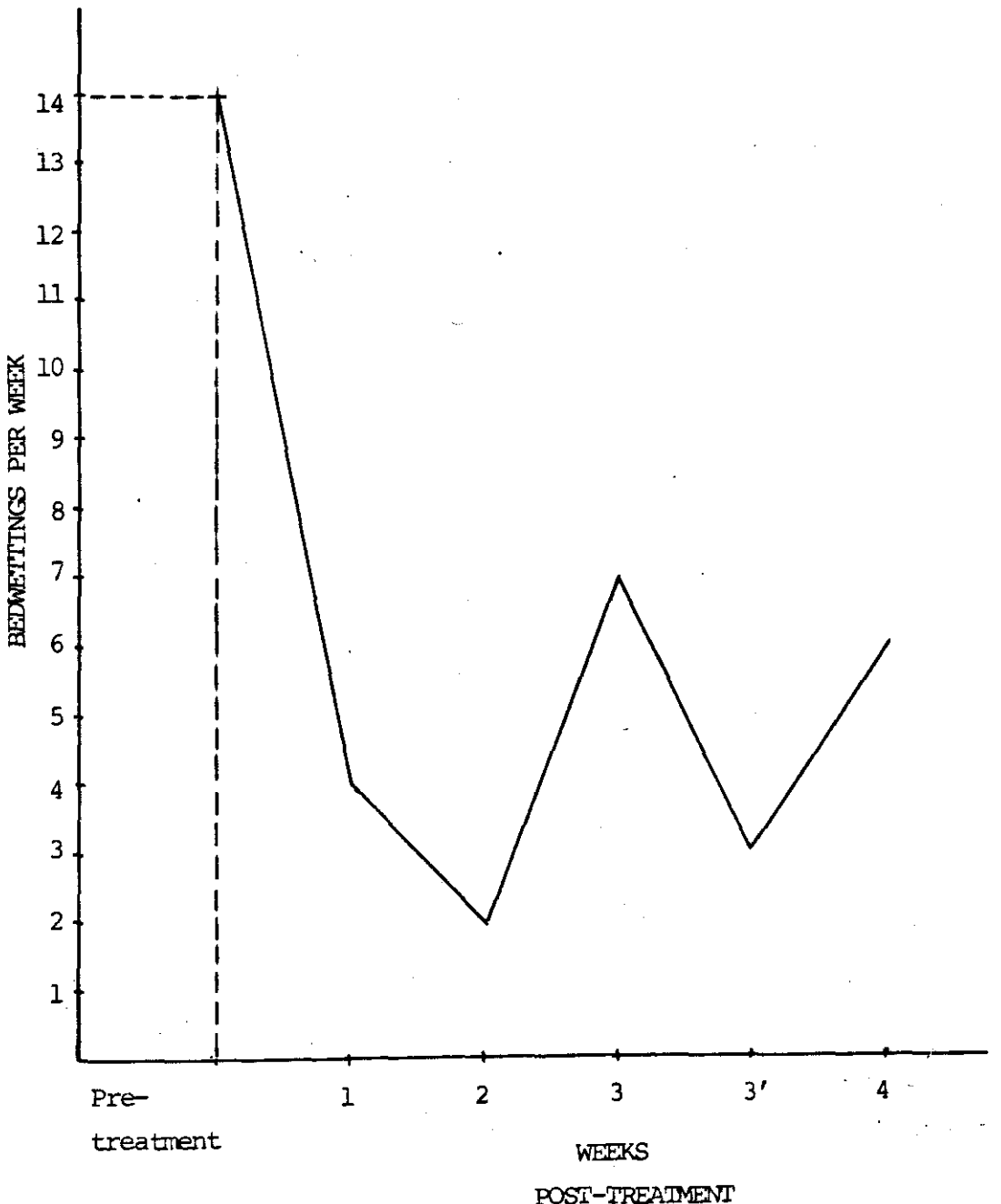
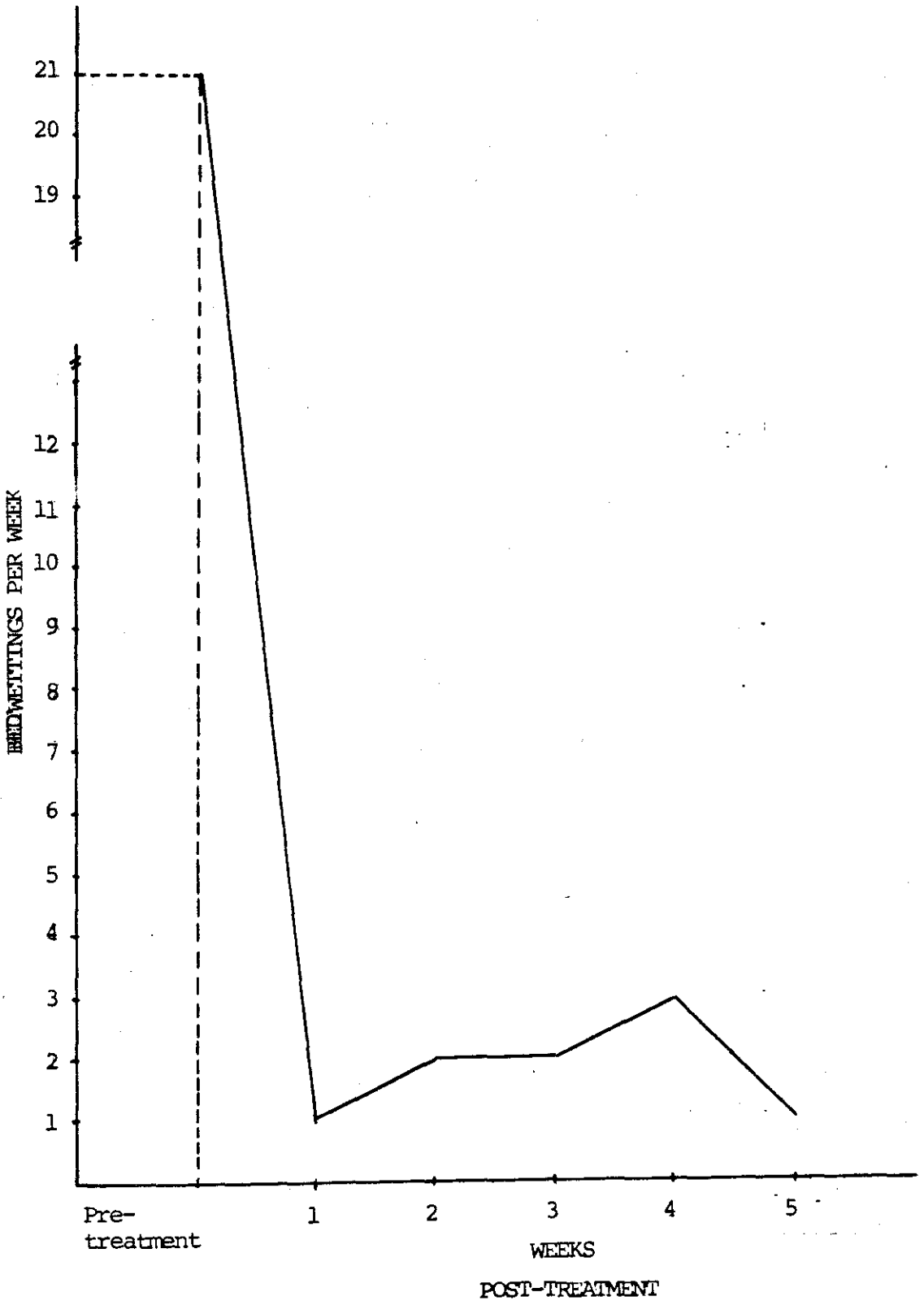


FIGURE 10. The individual treatment curve of Subject 9.



D I S C U S S I O N

The present treatment program was effective in eliminating nocturnal enuresis. In the experimental group, 6 children were cured, 1 child improved and 2 children failed to improve. The mean level of income in the experimental group was different from the mean in the control group. In order to test that the two groups were similar in the level of income, the Mann-Whitney U Test was applied for these groups. It showed that no difference existed between the experimental and control groups in relation to the level of income. So, income level could not be a factor in the lack of change observed in the control group. In the follow-up, carried after six months following the treatment, 2 of the "cured" children were found to have regressed to their original condition, while 1 child could not be located. The mothers of 2 regressed children reported that the effect of the treatment persisted one month and after that bedwettings occurred again. The child who was considered "improved" was also found to have relapsed in the follow-up.

The notable thing is that 2 of these regressed children's (one "cured" and one "improved", Subjects 7 and 6 respectively) parents had too much conflict between them. This brings to mind that those children's

bedwettings have a function in their family systems. Satir(1967) asserts that when parents have conflicts with each other these conflicts are reflected unconsciously to the child. According to this view, one child is chosen in the family (i.e. identified patient) and the parents convey their hostility to the other partner through the use of this child. Their conflicts are resolved through him, so the continuation of the symptom is necessary for holding the family together. Satir believes that unless parents are treated, the child continues to have symptoms to maintain the family balance. Thus, when pathology is seen in the relationships between the parents, this should also be worked on for successful results in a child's treatment. The present results seem to support Satir's view. In these two children's families, there was open conflict between the parents. The absence of problems in the siblings of these children was a confirmation that they were chosen to be the scapegoats. The treatment program applied in this study tried to improve the relationship only between the parents and the child. But, this did not suffice to lead to permanent results in these 2 cases. Therefore, the resolution of conflict between the parents by counselling them may lead to longstanding results in the child's treatment.

An important finding was the parents' acceptance of the child's enuretic state. Most mothers and fathers did not explicitly talk about the problem at home, but they silently accepted it and did not have any serious attempts to solve the problem. Such an attitude contributed to the continuation of the symptom. This finding is in agreement with Pierce's observations. Pierce notes that parents of enuretics accept the symptom and by this, they unknowingly permit the child to continue the

habit. Satir also believes that parents permit the persistence of any symptom even if they explicitly criticise the child. "Failure to follow through on threats, delayed punishment, indifference to and acceptance of the symptom, unusual interest in the child's symptom, or considerable secondary gratification offered the child because of his symptom" cause the symptom to persist (Satir, 1967, p.38). Thus first, this accepting attitude of the parents should be eliminated for successful results in a child's treatment.

This acceptance on the part of the parents might also serve the function of maintaining the self-esteem of the parents. In the present study, it was observed that the mothers did not see their or the children's responsibility for the problem. They thought that their children had a problem over which neither they, themselves, nor the children had any control. If they thought otherwise, they would feel embarrassment because, either; a) they gave birth to an enuretic child, or b) they proved to be incompetent in training their children. Since facing these points might lower their self-esteem, they take the easy way and relate the condition to the factors on which they have no control (e.g. heredity, small bladder. etc.).

It was found that most of the mothers carried the child to the toilet at night in their arms without waking them. But, when they neglected to carry him to the toilet, bedwetting occurred. This observation confirms Muellner's assertion that carrying the child to the toilet without awakening him does not have any curative effect upon the condition, but it only saves the bed. For the enuretic child, being carried by the mother may serve to express his aggression, since he

forces his mother to wake up for him. Also, it may provide the child with bodily contact with the mother and this may reinforce bedwettings. In the present program, in order to avoid this kind of a reinforcement, the mother was instructed to awaken the child totally and not to touch or help him when he was going to the bathroom.

Since most of the program was to be applied by the mother, the cooperation of the mother was important. The children whose mothers were cooperative either got well or improved, whereas two children whose mothers were uncooperative did not improve. But, since relapses occurred among the successful cases, cooperation of the mother during treatment proved not to be sufficient for permanent results.

It was observed that most of the fathers remained uninvolved in the application of the program. They sometimes even replected to have play-hours with their children. As Satir puts it, this might be due to the father's belief that parenting was his wife's job, so if the child was disturbed, the mother should make the necessary effort. The fathers' cooperation might have been elicited by having interviews with them too. Their active participation might lead to more successful results. Both parents may be given points after each interview, and they should know that they are assessed for their cooperation. In this study, only the mother was given points, but she did not know this. Which points will be assigned to themselves can be discussed by them. Their knowledge of what point they get for cooperation in the program may motivate them to obtain higher scores (i.e. to cooperate more).

Not only the cooperation of the parents, but the cooperation of other people who (e.g. grandparents) have influence on the child is important. In this study, when a grandparent objected to the program, the child showed regression for a few days.

Play hours should be given more consideration since, they proved to be very important in improving parent-child relationships. In order to draw parents' attention to this aspect, the experimenter can assign scores to the parents for their work in each day's play hour.

A progress chart kept by the child might also be used in the proposed program. This technique is used by Marshall, Marshall and Lyon. It requires the child to record dry and wet nights on a calendar and put a star for the dry nights. A visual demonstration of his progress may help to increase the child's motivation.

The use of the rewards proved to be effective since the mothers reported that their children became delighted when they received gifts for dryness. In fact, the rewards might have served 2 functions: 1) They increased the probability of the appropriate response, or 2) They satisfied the child's aggression towards his parents since he got something from them.

It was found that in the children whose enuresis is an expression of aggression toward the mother, if the mother cooperated, successful results obtained. That is, if the mother applied the program correctly, the child's aggression lessened and enuresis no longer occurred (See Subjects 1,2,3 and 5). In this respect, the program had on effect on

lessening the degree of friction between the child and the parent.

An important drawback of the study was that it was carried out with a small number of subjects. Some of the mothers who applied for the treatment later gave up for various reasons, such as, difficulty of coming to the experimenter's office, because of the cold season, or their "more urgent affairs" which emerged during treatment. This reluctance may be explained in 2 ways: Either they do not believe in counselling, or they are afraid that their fault can be detected during the child's treatment. As the number of subjects was small, it was not possible to make more precise statistical calculations. Further study needs to be carried out with more subjects.

In this study, the mothers had their children treated without payment. This might have influenced the results. Cognitive dissonance theory holds that the more effort, in any form, a person exerts to achieve a goal, the more valuable the goal becomes (Calder and Ross, 1976). If mothers paid some amount of money, in order to obtain the desired result they would work harder.

After the treatment, the experimenter did not have interviews with the mothers any longer. The mothers might need periodical interviews with the experimenter. This would serve as a reinforcement for their and their children's success. If, in the future studies periodical discussions with the mothers can be arranged, both the mothers would get reinforcement for successfully training their children, and the children's condition would be controlled by the experimenter.

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A P P E N D I X 1

Interview Form

Subject's name: Date of interview:

Mother's name : Date of birth :

Address : Age :

Tel. :

Referred by :

I. A brief explanation of the purpose of the study.

II. Reasons of referral and information about the problem.

1. When did the problem begin? If bedwetting occurred after a period of dryness, how had the mother made nocturnal continence possible?
2. How does the mother explain the problem?
3. Does the wetting occur during the day or at night?
4. How frequently does he wet? How many times does he wet in a single night?
5. How has the mother dealt with the problem? To what extent has she been successful? Has she ever gone to a pediatrician? If yes, what did he prescribe? Has she got any results? How long did the results last?
6. Does he sometimes have spontaneous cure. How does the mother explain this?

7. When did he learn to control diurnal micturition? What methods did the mother use to train him? Did the mother or someone else start the training? What was the father's role?
8. At the present, does the mother put diapers or does she awaken him at night?
9. Does the mother change the child's wet clothes and wet sheets each time he wets?
10. Who washes the wet clothes and wet linens the next day?
11. Who washes the child? How frequently does he get washed?
12. Does the child take too much fluid before going to bed?
13. What does he usually eat at night?
14. How does the child react to his problem? Does he want to get rid of this problem?
15. How do the parents react to bedwetting?
16. If he has any siblings, how do they react to bedwetting?
17. Did other siblings have the same problem? If yes, did they overcome the problem and how?
18. Does he have a separate room?
19. What time does he go to bed? Who takes him to bed?
20. When does he get up in the morning? Who awakens him?
21. What does he do during the day?

III. The current life situation.

1. The family:
   a. How many people are there in the family? Who are they?
   b. How old is the mother? Does she have formal education? If yes,

what is the level of her education? Does she have an occupation? If yes, what is it?

c. How old is the father? Does he have formal education? If yes, what is the level of his education? What is his occupation?

d. Does he have any siblings? If yes, how many of them are boys, and how many of them are girls? How old are they? Do they go to school? If yes, which grade do they attend?

e. If there are some other people in the family, who are they? How old are they? What do they do?

f. How does he relate to his mother?

g. How does he relate to his father?

h. How does he relate to his siblings?

i. How does he relate to the other people in the family?

2. The school:

a. Has be ever gone to kindergarten? If yes, when did he first go? What was his reaction to going there? How did he relate to his peers? How did he relate to his teachers?

b. Does he go to school? What was his reaction to going to school? Which grade does he attend? How does he relate to his peers? How does he relate to his teachers? How does he perform at school?

c. How does he study? Does anybody help him in his school work?

d. Does he go to school alone? How does he go?

e. What kind of an attitude do the parents have toward education? How do they react to the child's performance at school?

3. Social relations:

   a. Does he have any friends in the school or outside of the school? If yes, how does he relate to them?
   b. How does he relate to his elders?
   c. How does he relate to those younger than him?

IV. Development:

   1. After how many years of marriage was he born? Was his birth planned? Did the mother have any difficulty during pregnancy? Was it a normal birth or a Caesarian?
   2. Who took care of the baby? Was he suckled? If yes, how long? When was he weaned? Did he have eating difficulties? What was done for these difficulties? Where had he slept since birth? Where does he sleep now?
   3. When did he first walk? When did he first talk? When did he learn bowel control? How did he learn?
   4. Does he have any fears? Is he naughty? Is he a well-behaved child? Is he stubborn? What was his reaction to the newly born siblings? How did he relate to his parents when he was a baby?
   5. What do the parents do to discipline him? Do the parents have different attitudes in disciplining the child.

V. The relationship between the parents:

   1. How did they get married?
   2. How do they relate to each other?
   3. Do they frequently have arguments? For what do they argue? Do the arguments take place in the presence of their children?

A P P E N D I X 2

Subject 1, a 10-2 old boy had had a normal birth and development. His mother was a primary school teacher, and his father was a primary school inspector. He had a sister one year younger than him. He attended the fifth grade. He was never a bright student at school, sometimes even slow in doing his school work. Until the beginning of the fourth grade, his mother was also his teacher. This had caused a great deal of friction between the mother and the child. She reported that she beat him when he did not do well in class. His mother

figured him as being on irresponsible and aggressive child, but being shy in front of a group of people.

Subject 1 used to wet his bed 14 times a week Bedwettings had continued since birth, although he had complete control of diurnal continence at age 3. He was referred by a urologist from whom they sought help. Before that, they had not made any attempts for treatment. The parents wanted him to be treated as they planned to send him to a boarding-school the next year. The mother attributed the problem to the child's heavy sleep, for which the child cannot be held responsible. Since the parents did not want to embarrass him, they did not make their concern obvious to the child. But, the subject was reported to be unhappy with his condition. The mother tried to solve the problem by taking the child to the toilet twice a night for voiding. At those times, the child was in a state of deep sleep and the mother had to drug him to the bathroom. The above information presented a family atmosphere in which the child's condition was accepted and reinforced by the parents by their seemingly inattentive attitude. Being awakened by the mother might serve 2 purposes for the child; to force the mother to awaken at night, (i.e. aggressive feelings) and get a contact with the mother, which might be absent during daytime. The cause of his resentment to his mother was revealed by the mother as his being jealous of his sister. The mother reported that his son usually blamed their parents because they liked his sister more.

Since, it was the subject's usual habit, it was determined to awaken him twice a night. As for reinforcement, a favourite cookie was used for each dry night. Before treatment he had 14 accidents. In the first

week of the treatment program, the number of accidents was 2. The mother reported that in one of these accidents, he had taken too much fluid before going to bed. In the second accident, he had wanted her mother to give a sheet to put on the bed and when she had not given it, he went to bed without visiting the toilet and wetted his bed at night. Except these two accidents, the mother told that he was highly motivated in his treatment. He himself placed a clock near his bed, and warned his mother not to forget to awaken him. The mother, although seemed to be pleased with the result of the first week, defended herself as doing the same things before she had been instructed by the experimenter. She was afraid of being accused for her child's bedwetting. In the second week, the subject did not wet his bed. The mother being very glad because of thes condition was more willing to continue applying the program. She revealed that she found herself guilty, because before treatment she had not awakened him completely when she had taken him to the toilet at night. A toy car and a book were bought with the money saved in this week, except the cookies given for each dry night. In the third week, the subject, again, did not have any bedwettings. The mother was very glad and she reported that his son was also very happy. During a few nights, the subject himself could wake up by the alarm of the bell, to his mother's great surprise. In this week, he was given a chocolate twice for 2 dry nights and once for 3 dry nights.

In the fourth week, for three days he was awakened once a night. When the mother reported that no accident occurred during these nights, she was instructed not to awaken him at all (also not set a clock near the child's bed). During the remaining days of the fourth week he did not wet. In the fifth week, he wetted his bed once, which the mother could not explain.

But, she told that except this accident, her son was either able to sleep through the night without voiding or wake up and go to the bathroom. At the end of the treatment, he was given a book which he wanted very much. The mother reported that dryness increased his self confidence and he became more obedient at home. Six months later, a follow-up study was made in which the mother informed the experimenter that her son no longer had enuresis.

In this case the child's aggression toward his mother was obvious. The mother's dominating personality and their school experience had effects upon the condition. Even during treatment, when the subject got angry with his mother, he wetted his bed. The child was old enough to see that other children did not wet. His parents' approval of his condition might have made the child believe that his condition could not be cured. Having play hours with the parents, their Concentration on the problem and their appreciation of his success by reinforcements developed a closer relationship between the child and the parents. This was especially true for his relationship with his mother. The father, being always passive, remained passive in the application at the treatment too. But, since the friction usually occurred between the mother and son, her application proved to be more important. This improved relationship lessened the child's aggression toward his mother. Also, gaining mastery over a condition which he had had no control before increased his self-confidence.

Subject 2, a 7-4 old girl had a normal development and was considered healthy by her mother. Her mother was a pharmacologist who, at the time being was not working, and her father was a chemical engineer. The rest of the

family consisted of a nine year old brother and a grandmother who lived with them. The subject attended the second grade and was a good student. The mother portreyed her daughter as an obstinate, shrewdish and independent child with good relations with her friends. Her relationships out of home were better than they were at home. She was quite jealous of his brother who enjoyed much attention by his parents and was pampered by all. She was in better terms with her father than with her mother. The mother seemed to prefer her son who was a more submissive child. Since the mother tried to control her daughter, they frequently had quarrels.

Subject 2, had never had nocturnal continence since birth, but she was continent diurnally at age 2-6. She wetted her bed twice a night unless her mother took her to the toilet without awakening her. The subject did wet her bed only when she slept in her own bed. When they stayed at a hotel during a journey, she did not have bedwettings. The mother related this to her feeling comfortable at home. According to the mother, the child's condition was due to her having a small bladder. She had used imipramine (Tofranil) at three different times, but even during these the mother had not awakened her, she wetted the bed. As she herself had the same problem during her own childhood, the mother tried to be calm towards bedwettings, and did not want her daughter to get upset by her state. Also, since they frequently quarrelled in several matters, she felt herself obliged to be more permissive in this situation. Thus, the subject was not bothered much by her condition. The father, as a tolerant person, did not consider bedwettings a problem . The parents created an atmosphere in which bedwettings were accepted and she was not held responsible for her problem.

She had eleven accidents during the week prior to the beginning of the treatment. It was decided to awaken her twice a night. When the mother told her about the treatment program, she did not show any negative reaction. During the first week, she had only one accident. That night, neither the parents nor the subject could hear the alarm and wake up thus, the accident occurred. In this week, she was given a chocolate for every dry night. In the second week, again, she wetted her bed only once. That accident occurred at a night when her mother neglected to awaken her. She tried to go to the toilet, but, since she was sleepy, she sat near her bed and voided there. Another night, the mother and the child, again, could not hear the alarm of the bell. But the subject, herself later woke up by herself and went to the bathroom. A pair of socks and a sweatsuit were bought with the money saved in this week. The mother reported that her relationship with the child was better than before the beginning of the treatment. In the third week, 3 accidents occurred. During the weekly interview, it was revealed that when the mother had told the subject that she was not going to be rewarded for every dry night anymore, the subject objected to it and said that if she tried hard for her treatment, they (i.e. parents) also should try hard. The mother was advised to tell the change in the reinforcement schedule in a way that was more acceptable for the child (For ex: The mother could say that since the subject would not know when a present was coming, obtaining a reward would be a nice surprise to her). As there occurred an increase in the number of bedwettings, it was decided to repeat phase 3 one more week. When the mother returned home from this weekly interview, she found the child waiting for her. She was very nervous because she had waited too much for her mother. Thus, she said that she would wet her bed at night. Really, she wetted her bed at that

night. But, after that event, she neither had any accidents nor expected a reward for dryness. When she was given presents (two hairpins), she was delighted very much. In this week, she woke up by herself by the alarm of the clock without her mother's warning and visited the bathroom. During the fourth week, for 3 days she was awakened only once. One of these nights, she woke up when she was still voiding in the bed, and she went to the toilet to complete urination. Other nights she was dry. During the remaining nights of that week, although she was not awakened at all, she did not wet her bed. In the fifth week, she had only one wet bed. The mother reported that at that occasion, the subject had an argument with her father before going to bed. After the argument, she had said that she would wet her bed. In the follow up, six months later, the mother reported that during that period the subject had only one wet bed, and the relationship between her and the child improved.

In this case, it again seemed that the mother had a role in the continuation of the child's symptom. Her role had 2 aspects: First, she had a great deal of friction with her daughter, which led to resentment in the child; secondly, she showed tolerance toward bedwetting since she had had the same problem in her own childhood. Also, during the treatment although she usually applied the program correctly, she sometimes showed inconsistent behavior (e.g. neglecting to awaken the child, not hearing the alarm of the bell). These 2 factors became obvious when the mother gave information about the events that look place at home. The accidents occurred under two conditions during treatment; 1) after an argument with one of the parents, and 2)when the parents neglected to awaken the child. During treatment, the child's conflict with her mother became less as the mother devoted mor

attention to her daughter with play hours, and appreciated the child's efforts by reinforcements. Improved relationship with her mother helped the child to overcome her problem. The father, in this case too, was not as active as he was supposed to be, so he sometimes did not devote his time to his daughter for playing with her.

Subject 3, a 5-3 old boy, was referred by a pediatrician. He was the first child of his family. He frequently had got ill which caused him to have a weak stature. But his mother reported that his pediatrician considered him as normal. The mother worked in a factory as a secretary, and the father was a technician in a hospital. The subject had a brother who was four years younger than him. After his brother's birth, he had begun stuttering which was reported to be mild at the time of the treatment. He also had eating problems. The subject attended the kindergarten of the factory where his mother worked. He did not like the kindergarten and did not want to go there. He frequently had fights with his peers. He was indifferent towards his mother, but he was in good terms with his father. He behaved aggressively towards his brother.

Although Subject 3 learned to control micturition during daytime when he was 1-6 old, he had wetted his bed since birth. He usually wetted twice a night. The mother related the child's incontinence and stuttering to his being jealous of his brother. The parents, although very much concerned about bedwettings, did not show their anxiety to the child and tried to stay silent to the matter. But, the subject was very unhappy with his state. He had become very hopeful when he learned that his mother was to go to the experimenter for his treatment. The mother still put diapers

and took him to the toilet at night for voiding while he was still in a state of slumber.

The mother was advised to remove the diapers and awaken the child twice a night. The subject and his brother slept in the same room. Thus, in order not to disturb the brother, the mother was asked to prepare a bed for the subject in another room. The only available place was the living room. During the week prior to the beginning of the treatment, the subject had 10 bedwettings. In the first week, he wetted his bed three times. The mother reported that as the subject slept in the living room the presence of visitors disturbed him. She also added that she had had an argument with her husband, which might have affected her application of the program. The subject was given a favourite cookie for each dry night. During the second week, accidents decreased to two. These 2 accidents occurred at the nights when he had fever. For 3 nights in this week, in addition to the two routine voiding in the toilet, he himself woke up for a third time and went to the bathroom. The child was very happy with his improvement, and told everybody that he did not wet his bed any more. Two rackets were bought in this week, in accompaniment with a favourite cookie for each dry night. During the third week, the subject wetted his bed four times. In this week, paternal grandmother who came for a few days visit interfered with the program. After the first bedwetting in this week, the grandmother objected to the subject's washing wet sheets. An open argument had taken place between the mother and grandmother in front of the subject. That morning, the grandmother washed the wet sheets and pajamas. After that event, the subject wetted his bed for 3 consequtive days and did not want to wash wet material, and the mother tried very hard to persuade

him. The mother bought a chocolate with the money saved in this week. As there was an increase in the number of bedwettings, the third week's program was repeated. During the second application, he had 2 accidents for which the mother could not find any explanation. In this week, he was given a toy car. In the fourth week, for three days he was awakened only once a night. When the mother reported that he succeeded in remaining dry at those nights, it was decided not to awaken him any more. The remaining nights, he did not wet his bed. During the fifth week, he wetted twice. The mother told that one of the accidents occurred at a night when he went to bed very late. The other accident occurred at a night when his brother's leg was burned seriously. It was probable that the mother was concerned very much about his brother's leg, and she neglected him, which produced wetting at night. Thus, it was decided to repeat this week's program. In the second application, he did not have any bedwettings and a toy which he was very much fond of was given him as a present. Six months later, in the follow-up study, the mother reported that the subject had only a few accidents after the termination of the treatment.

In this case, again, the subject was resentful toward his parents, especially to his mother. This was due to his belief that his little brother was loved move than he was. During the treatment, the mother regularly had play hours with the child. Only during one week she could not play with the child because her mind was occupied with the arguments she had with her husband. Play hours led to a closer relationship between the mother and the child. This was revealed in the mother's report that he was not cold toward his mother any more, but he wanted to be always with her. Improved relationships, getting favourite presents from his mother,

and gaining control over the problem for which he had been very much unhappy led to the successful termination of the program. In this case, too, the father did not participate in the program as much as the mother did.

Subject 4 was a 12-1 old girl. Her mother was a housewife, and her father was a highschool graduate who was a tradesman. She had a sister who was two and a half years younger than her. She had been a sleepwalker, but this habit ceased one year before the present treatment. According to the mother, the subject looked like her father: They both had nightmares and they were both afraid of gaining weight. The mother was, in fact, quite neurotic, who liked to spend all her time worrying about the family members, and who made it her business to intrude in everything they did. The father, as reported by the mother, was a passive man, who gave the opportunity to the mother to dominate everybody at home. Subject 4, was a 7th grade student who was poor in her studies. Instead, she liked to do handiwork. In general, she had good peer relations.

Subject 4 was continent at daytime when she was 2-6 old, but she had never obtained nocturnal control. She wetted her bed everynight, the mother not knowing the number of times. But, she told that whenever she controlled the subject's bed at night, she found it wet. The mother had taken the subject to some physicians who advised her to wait. One month before the beginning of the present treatment the subject had used imipramine (Tofranil) which made her nervous. Thus, the drug was withheld by the mother. Bedwettings sometimes became less in number. The mother could explain neither the presence of the symptom nor the change in its frequency. Although she had taken the subject to different specialists

(i.e. pediatricians, psychologists), she did not have any frank attempts to prevent bedwettings. In fact, she seemed to be glad living with it. She, herself changed her daughter's wet sheets and washed them. Even, the mother washed the subject after bedwettings. A more strange thing about this subject was that she was still wearing diapers. Until a year before, the mother used to put the diapers, but then the subject, herself, was wearing it. The mother reported that she usually scolded and beat the subject for her bedwettings. The father had no real consideration for his daughter's state. Her sister did not want the subject to touch her materials, since she was dirty. The subject seemed not to be bothered by her condition. According to the mother, the she was on better terms with her father.

In the week prior to the treatment, the subject had six wet beds. Since the mother did not guess the hours at which the subject usually urinated at night, she was given a few days trial to determine the hours Later, it was decided to awaken her twice a night. During the first week, three accidents occurred. The mother told that although the subject had not shown interest in the program when she was first told about it, during the week she was enthusiastic in the application of the program. She told the mother that she was not a child, so she did not want a present for every dry night. Thus, it was determined to save a certain amount of money for her each dry night. In the second week, she wetted twice. The mother had not followed the instructions during this week. She had not given money, but bought some presents for her and given them according to a schedule which was different from the one given by the experimenter.

In this weekly interview, she gave examples of enuretic children who were older than her daughter. She tried to persuade the experimenter that the subject's condition was normal. The experimenter, in turn, explained that bedwetting was not normal at her age,and she had to follow instructions carefully if she wanted her daughter to be treated. This interview revealed the mother's ambivalence toward her daughter's incontinence.

In the third week of the treatment program, the subject wetted only once, although the mother insisted on applying the program incorrectly. Since a decrease was observed in the number of bedwettings, it was attempted to continue the treatment in the presence of the mother's uncooperative behavior. In the fourth week, she subject had seven bedwettings and in the repetition she had five accidents. As the mother continued her uncooperative behavior the treatment was terminated early with no success. Six months later, in the follow-up, the mother reported that the subject had the same frequency of bedwettings as before.

As can be seen the mother of this subject gave conflicting messages to the child; although she seemed to look for a solution for bedwettings, she accepted and even fostered it. This attitude led to the continuation of the symptom. She was insistent on the same behavior during the treatment, thus the result was a failure.

Subject 5, was a 8-5 old girl. Her mother and father were both high school teachers, but the father began working as an officer in a factory at the time of treatment. Her one year younger sister was a first grade student. Also, a 20 years old girl who helped in housework lived with the

family. The mother reported that her marriage was a very unsuccessful one. She told that since she and her husband had very different personalities they could not get along well. They both used to have their own ways of living, although they shared a home. That year, her husband was trying to improve their relationships, but the mother wanted a divorce. She could not realize the divorce at that time, because she was afraid that a break up would make the subject's condition more serious. The mother reported that the subject was very much affected by her parents' arguments. Her mother described her as depressed. She did things to draw attention of others. Her teacher reported to the mother that the subject was inattentive at class. She attended the third grade and she was fair at schoolwork. Because of her condition, the mother was very much upset for the subject and she tried to devote all her time to her daughter.

Subject 5 had never been continent at night since birth, but she had complete control of diurnal micturition when she was 2 years old. In general bedwettings occurred twice a night. Her mother had sought treatment from physicians who found no organic pathology and prescribed Tofranil which did not alter the state. According to her mother, the subject's bedwetting was the result of conflict between the parents and her being jealous of her sister. In fact, the subject did not like her sister and envied her. The mother took the subject to the toilet three times a night to have her urinate, while she was still sleeping. Since she was very upset with her bedwettings and wondered whether something was wrong with her, the mother tried to comfort her by telling that she herself had had the same problem during her own childhood although this was not trues. The father did

not make his concern over bedwettings obvious to the child, while her sister used this as a means of intimidation.

During the week prior to the treatment, the subject wetted her bed 4 times. As it was her usual habit, it was decided to awaken her 3 times a night. In the first week, she had only one accident. This accident occurred at the night when her sister was ill. The mother held her sister's illness responsible for this bedwetting. She was given various different kinds of pencils or erasers for dry nights. In the second week, she had 3 bedwettings. The mother told that since her younger daughter was ill, she could not give enough time and consideration to the subject. The second week's program was repeated and in the repetition she had only one accident. During the third week, only one bedwetting occurred at a night when the clock did not work. A wall-calendar and a set of colored pencils were bought as presents in this week. In the fourth week, three accidents occurred. Two of these accidents occurred at the night when she had an argument with her father before going to bed. Third accident took place at a night when she went to bed too late. In this week, two story books were bought with the money saved for dry nights. In the last week, she wetted only once. The mother was very much surprised when she observed that her daughter was able to wake up by herself at night and void in the bathroom. Since they were not found in their address, follow-up could not be made with this subject.

The parents of this subject provided an insecure environment for their daughters. Their conflict with each other and the presence of a little sister seemed to cause her to be depressed and enuretic. During the treatmer

both her mother and father were very careful in applying the program. They regularly had play-hours with her except during one week when their younger daughter was ill. After the beginning of the program, the parents tried to present a good front when they were with children. Careful application of the program led to success at the end of the treatment, but since the case could not be seen later, the persistence of the result was not known.

Subject 6, a 9-9 old boy was referred by a urologist. His mother was a high school teacher and his father was a driver. The subject had two brothers and one sister. His father was an alcoholic. He frequently changed work and sometimes did not provide money for the family. When he got drunk he cursed and beat his wife and children although he was a good tempered man at other times. The parents had come fairly close to an actual divorce the year before, but the mother had given up since she had felt pity for her husband. The mother devoted herself to her children and especially gave more consideration to the subject because of his condition. He did not get along well with his younger brother. He was on good terms only with his older brother. He attended the fifth grade and he was very bright at school. He was the best of his class. He did not have many friends, and he preferred to play alone.

Subject 6, had diurnal continence when he was three years old, but had not achieved nocturnal continence since birth. He wetted his bed every hour in one night. The mother sought treatment for the subject, but the medications proved useless. She blamed the father's alcoholism and her conflict with her husband. As she did not want to hurt her son, she accept

bedwettings in silence. She was tired of taking him to the toilet every hour at night. His siblings called the subject "sidikli" and used this to make him angry. Thus, the subject was very upset for his condition. The mother reported that he began school at an early age, which caused him a great deal of stress. His mother defined him as a good-tempered and well-mannered boy who preferred to play alone.

The number of bedwettings was 42 in a week before treatment. It was decided to awaken him three times a night. In the first week, 4 accidents happened. The number was not high when it was considered that he had used to be taken to the toilet every hour during a single night. In this week, for each dry night a favourite chocolate was given. During the second week, the number of accidents remained the same (i.e. four). But, one accident occurred the night when the clock did not work. Thus, next week's program was given. In the second week, in accompaniement with a favourite cookie, some amount of money was saved. In the third week, he wetted his bed three times. Two of the accidents occurred the nights when the clock did not work, and as a result the mother and the child could not wake up. The mother was advised to set an alarm clock that worked well. In this week his mother bought him two toy cars. In the fourth week, for two days he was awakened twice and no accident occurred. For another two days, he was awakened only once, and he wetted. So, he was again awakened once for two more days. When no accident occurred, he was not awakened at all, and at that night he wetted the bed. Totally, 3 accidents occurred during the fourth week. In the 5th week, the mother observed that her son began wetting his bed once a night. Although an improvement in his condition was obtained in this case, bedwettings did not cease. Six months later, in the follow-up

the mother reported that for one month be wetted once a night, but later began to wet twice or three times a night.

The father of this subject did not contribute much to the treatment. He did not have play-hours regularly. Even the mother, although tried to follow the instructions carefully, sometimes could not devote required time in play-hours. A decrease in the number of bedwettings was achieved at the end of the treatment, but an increase in the frequency was reported in the follow-up. This relapse might be explained in terms of family dynamics. Bedwetting might have served to resolve the parents' conflicts. So, the individual treatment of the subject did not lead to permanent success.

Subject 7, a 6-7 old girl was referred by a school counsellor. Her mother was a university graduate who was a tradeswoman, and her father was an architect. She had a brother who was four years older than her. According to the mother, her marriage was a very unsuccessful one. Her arguments with her husband had continued since they got married. Their arguments took place in front of the children. The mother did not think of a divorce since she had children, and accepted the ungoing situation silently. The parents also did not present a united front in child rearing practices. The father always thought that everything she did was wrong and expressed this in the presence of children. The mother described hersel as a person who tried to hide her feelings. She was also strict in child discipline. She figured the father as a permissive person who was very much fond of his daughter. The subject and her brother were usually on good terms, although she was a little jealous of him. Her mother described the subject as a being chatty, reasonable and friendly with older people.

She was also a bright and ambitious student who had good peer relationships.

Subject 7 was continent both diurnally and nocturnally when she was one and a half years old. At age three she had begun wetting her bed. The mother could not find any reason for her bedwettings. Bedwettings continued up to her present age, with frequencies such as, once or twice a week. But for one month before the beginning of the present treatment, she wetted her bed every night. During the interview, an event in the family or school, which might be responsible for enuresis was searched, but no guess was made. Last year, she used Tofranil and Librax which did nor help to alter her state. The mother tried to awaken her at night to prevent bedwettings, but since the subject was a sound sleeper, she gave it up. The subject was not bothered by her condition very much. Her mother reported that although she was strict in other matters she tried to be tolerant toward bedwettings. The father, as being always lenient toward his children, took no real consideration on the matter. Her brother got angry with her as her wet sheets smelled badly.

She had 12 bedwettings before the treatment began (during the last week). It was decided to awaken her three times a night. When the mother had given information about the program.the father objected to it. He had found the program very strict for a child. When the mother told him that he could talk with the experimenter if he wished, he accepted the situation (He did not talk with the experimenter, but did not show any interest in the program either). Different kinds of chewing gums were given for dryness in the first week during which she had two accidents.In the second week, she wetted her bed twice. After an argument between the parents, she had

accidents at two consequtive nights. During this week a favorite cookie was given for each dry night and some amount of money was saved for dryness. In the third week, 2 accidents occurred. During this week, she once soiled at school and did not change her underwear and waited until her mother changed it. Before the treatment, she had soiled a few times, but this was the only accident during the program. The mother did not reveal why this worsening occurred. In the fourth week, only one accident occurred. During the fifth week, although she was not awakened at night, she did not wet her bed. She was also able to wake up by herself and go to the bathroom. Six months later in the follow up, her mother reported that the effect of the program persisted one month, but after that she began to wet and soil.

This subject's problem was a very serious one. She received contradictory messages from her parents. As if the parents were attacking to each other through the child. So, the father expected her to wet her bed, and her mother by showing tolerance only on this problem, also supported the continuation of the symptom. Since the subject's problem had a function for the parents, she regressed to bedwetting after the terminatio of the treatment.

Subject 8, 6-2 old girl was referred by a school counsellor. She was the only child of her family. Her mother was a housewife and her father was a military officer who frequently had to be away from home. The parents had a happy life. Since the subject was their only child, they were very much concerned about everything she did. Especially, the mother seemed to exaggerate the subject's problems. The mother was also an ambiticus one

who had high expectations for her daughter. For example, although the subject was among the children who learned reading earlier in class, she thought that her daughter had reading and writing difficulties. The mother described her as a sweet-natured, gracious girl with very good relationships with her friends.

Subject 8 had obtained control of diurnal micturition at age 1, and nocturnal micturition at age two. She had been wetting her bed for seven months when the mother came for the treatment. Bedwettings occurred twice or three times a night. Her mother did not know the cause of bedwettings. She told that last summer she sent the subject to swimming lessons, and the symptom emerged after those lessons . It was clear that she had expected the subject to have high performance. Later, when she began school, again the mother's expectations were very high. At the beginning of bedwettings, the mother scolded and beat the child, but later she tried to be calm. The father preferred to stay silent to the matter. The child was very much upset with her condition. The mother aroused the subject three times a night to have her urinate.

Subject 8 had 14 wet beds before treatment. It was decided to awaker her three times a night. In the first week, for 2 days the mother did not apply the program. In the remaining days she applied, but 4 accidents occurred that week. In the interview, it was revealed that the mother applied the program incorrectly (i.e. changed the she hour at which the child would be awakened). In the second week she wetted twice. The mother reported that it was very difficult to awaken her due to her hevay sleep. In the third week, 7 accidents occurred. During that week, the parents

had forced the subject to study and insisted that she should study all the time. They even scolded her when she did not apply herself properly. This created an extra pressure for the subject to cope with. The mother was advised not to be so much demanding towards her daughter. Since there was an increase in bedwettings, the third week's program was repeated. In the repetition three accidents occurred. During the fourth week, the number of accidents increased again. She wetted six times. In this week, the parents paid great attention to her school work. The subject was too much under pressure. During daytime she was compelled to study and at nighttime she was required to wake up three times. The requirement of the program that "there should not be any event disturbing the famiy life at the time of treatment" was violated. Thus, the treatment was terminated early without getting an improvement on the child's condition.

Subject 9, a 6-7 old girl referred by a school counsellor. Her mother was a housewife and her father was a shipowner. She had a sister who was three years younger than her. A 40 years old woman who made the housework also stayed with the family. The subject was a tidy, well-behaved child with no other problems except enuresis. She was also a good student at school. The subject loved her mother ver much. The mother reported that they had a very close relationship. On the surface, the subject liked her little sister and played with her when she was at home.

This subject's bedwettings had continued since birth, but she had completely continent at daytime when she was 3 years old. She had used Tofranil which had no effect upon the condition. To prevent bedwettings

the mother took her to the toilet 3 times a night and had her void in the bathroom. The subject was very nervous after a wet night and asked her mother whether she got angry with her. The parents did not want to show explicitly their concern about wettings. Their younger daughter, a 3 years old girl also still wetted her bed.

As it was the subject's usual habit, it was decided to awaken her three times a night. Before treatment, she had 21 accidents a week. In the first week, only one accident occurred. A favourite chocolate was given for dryness during this week. In the second week two bedwettings occurred. The mother did not report any event that may have caused these accidents. During the third week, again two accidents occurred. In the fourth week, she wetted three times. A night in that week, she woke up and went to the toilet by herself. The fourth week's program was extended for two days to habituate her not being awakened by an alarm clock. When she was successful in these 2 days, the fifth week's program was applie During this week she had only one accident. Six months later, in the follow-up, her mother reported that she still had bedwetting once a night. The resistance on the part of this subject might be the result of her havir a sister who also wetted her bed.