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THE SYMBOLIC PROCESS OF RECIDIVIST AND NON-RECIDIVIST CHILDREN AS ASSESSED BY THE KAHN TEST OF SYMBOL ARRANGEMENT

#### A DISSERTATION

# SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

# degree of

## DOCTOR OF PHILOSOPHY

BY EDWARD THOMAS MANN, III Norman, Oklahoma

# THE SYMBOLIC PROCESS OF RECIDIVIST AND NON-RECIDIVIST CHILDREN AS ASSESSED BY THE KAHN TEST OF SYMBOL ARRANGEMENT

APPROVED BY Ф.

DISSERTATION COMMITTEE

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# THE SYMBOLIC PROCESS OF RECIDIVIST AND NON-RECIDIVIST CHILDREN AS ASSESSED BY THE KAHN TEST OF SYMBOL ARRANGEMENT

#### CHAPTER I

#### INTRODUCTION

Although much has been written about personality deviation resulting from institutionalization, disagreement existed about its specific effect. This study was undertaken to determine if length of immobilization was a significant factor in the emotional and symbolic growth of children. Thus, the following questions were considered: Does institutionalization effect symbolic growth? Is there a difference between long-term and short-term institutionalized children in relation to symbolic development?

## Fundamental Needs of Children:

#### Psychological and Physiological

Children should be protected from distortions, unnecessary deprivations and exploitations by adults -parents, educators, nurses, physicians, psychologists, and others engaged in dealing with their fundamental needs.

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Consistent with this general statement, Harlow mentioned that:

Although people have been observing children for a very considerable period of time, there are few psychological areas of greater intellectual gloom than the area relating to the effects of early experience (1956, p. 274).

The extent of the subtle pressures and coersions exerted upon the child was difficult and frequently impossible to realize. Hawkes, in discussing how the child perceived these pressures stated:

The child conceives of better behavior in terms of what his father wants, as activities which do not disturb the father, such as not interrupting or meddling or making less noise. The child feels that the mother wants an efficient and orderly home and wants him to assume household responsibilities, follow instructions promptly and carefully, and get along better with his brothers and sisters (1957, p. 19, 48).

Because of external pressures, the infant entered into a family situation that even at birth might be threatening and out of harmony with his peculiar, idiosyncratic make-up and needs. At the same time, eager parents might be unconsciously determined to deny the child his personal and emotional characteristics, which in turn gave rise to needs as important and urgent as the need for physical care.

Every child suffered, to a greater or lesser extent from denial of his own personal and emotional individuality, because even the most emancipated parents could not wholly be free from the desire to see their child conform to the images they had constructed.

Dorothy Baruch's study of Kenneth, reflected this need on the part of the parents and the possible effect on children.

Kenneth's mother and father, like most parents, tried to do their best for their child and yet their own personal problems deprived the little boy of the most vital ingredients of growth and happiness -- love and understanding (1952, p. 1).

Furthermore, the child himself was subject to the strong dependency desire of the parents even though this identification was totally out of harmony with his own make-up. Also, the dependency need of the child which was reinforced by some parents could lead to behavior problems as Chasson believed:

The child develops the expectation of reward for being dependently good, and punishment, or the withholding of reward, or a general feeling of anxiety when he is not. These expectations are reinforced by the actual data of the home environment. . . As time goes forward and contacts outside the home are increased, chances are that the child may come into contact with an increasing number of persons whose attitudes and expectations differ to a considerable extent from his own (1962, p. 607).

An emotional conflict situation could and in many instances did develop into acute neurosis. However, according to Beatrice Wright, child dependence was not in itself injurious:

. . . it has been found that those mothers who had an accepting, tolerant attitude towards the child's dependent behavior tended also to be affectionately warm toward the child. The findings of such studies alone suggest caution in decrying dependency (or for that matter mother overprotection) without considering the broader relationship between parent and child, the emotional needs of the child, and the ways of achieving a satisfactory dependenceindependence balance. .

Dependence in itself is a value, and it is essential in many important kinds of interpersonal relations. People, for instance, should be able to rely on others, to ask for and accept help, to delegate responsibility, but these relations occur naturally only when the person has learned that there are many occasions when dependence is indeed laudable. Dependence becomes then, not only a second best alternative, but a valuable end in itself. The physical realities of life as well as the needs of psychological man require that he be dependent on others as well as independent from them (1959, p. 77).

The infant, as he grew into childhood and youth, faced a series of life crises that could not be avoided or denied. The way he confronted these crises and used his ability to "cope" with them in most instances was a function of his relationship with others -- how he viewed himself -and the fulfillment of his physical needs.

The original biological endorsement of the child permits him to develop various possible types of response patterns which become organized into what, for short, is called personality. Given a normal biological endorsement and a natural process of maturation, the crucial facts in the development of the child's personality are the frequency and type of his social experience (Burchinal, et al; 1957, p. 19).

One factor that offered a potential crisis situation for the child was the impact of feeding, a situation wherein he had to accept despite individual differences in his physiological development. Prolonged hunger and crying, created in him a condition of tension that in some cases initiated persistent personality difficulties. The process of feeding was far more important than merely satiating the need for nourishment. In early childhood the entire body of the infant, over and above the feeding process, was receptive and in need of comfort, warmth, and the opportunity to suckle. Bowlby believed that either as therapists or theorists, the importance of understanding the relations of the child to his family must be stressed.

It is sufficient to say that what is believed to be essential for mental health is that the infant and young child should experience a warm, intimate, and continuous relationship with his mother in which both obtain satisfaction and enjoyment (1952, p. 11).

The child-family relationship greatly effected the child's sense of security and feeling of being protected. Man, as well as lower forms, never outgrew this need of succorance and affiliation; but it was especially great in infancy and childhood. As Winnicott mentioned in reference to the influence of the parent on the child's emotional development:

. . . good or bad things happen to the infant that are quite outside the infant's range. In fact infancy is the period in which the capacity for gathering external factors into the area of the infant's omnipotence is in process of formation. The ego-support of the (parental) care enables the infant to live and develop in spite of his being not yet able to control, or to feel responsible for what is good and bad in the environment (1965, p. 37).

Should the infant receive adequate breast-feeding, affectionate cuddling, in an atmosphere that is warm and accepting, it was felt that his future attitude toward

himself and the world will be outgoing, generous and trusting. If he is denied these satisfactions, he will be suspicious, niggardly and resentful. Plant agrees with this viewpoint. He stated that:

...satisfactory breast-feeding (cuddling) experiences do more than whole dictionaries of later words in the establishment of security in the family group (1937, p. 67).

Plant referred to this establishment of security as "belongingness." Hawkes suggested that:

It is not sufficient or even realistic to assume that because a mother fondles a child, the child sees this attention as a sign that his mother loves him. It is not the physical nature of the stimulus which determines reaction but rather the way in which that stimulus is interpreted by the individual stimulated. In each case, this will be a highly individual interpretation (1957, p. 19, 47).

Toilet training was a second factor that could represent another potential traumatic event in a young child's life. In toilet training the child was confronted with a profound physiological disturbance which could and in many instances did effect succeeding emotional and psychological growth. In being asked to inhibit his sphinter response to pressure, the child was in a sense, being asked to surrender his physiological autonomy, which if not approached correctly, could result in extensive negative affect. During this training, the child was expected to subordinate his internal processes to external events and times, often months before he was sufficiently capable to make such an adjustment.

The process of toilet training also affected undo anxiety in the child. Anderson (1946) found the child needed constant reassurance and comforting in order that he might cope with this anxiety. Should failure in his performance be met with scoldings and punishment, the emotional stresses were increased and reinforced by feelings of guilt and inadequacy which could be expressed in various forms of misbehavior. Frank mentioned:

. . . that the child has to learn to stabilize his internal environment so he can deal with the external environment by stabilizing his thresholds for experience. We can think of purposive behavior as becoming possible to the extent to which the internal environment gets stabilized and . . . going beyond that of the innate (internal) homeostatic balancing. And then the child learns to stabilize the external environment by equalizing and transforming events as patterned by his culture, so that then he is able to maintain a stabilized basis of relationship to the world in and through which purposive behavior can be developed (1959, p. 28).

A third factor that could represent a crisis for the child was his interpersonal relationship with parents and siblings throughout the early developmental process. Martin (1957) and Burchinal, Hawkes, and Gardner (1957) found that the emotional tone and attitude of parents were important for the child reacted to the tone or attitude and felt tenseness in the adult voices and handling. As a result, any anger or impatience on the part of the parents toward the child or between parents when the child was present might become an occasion for anxiety and feelings

of guilt. Consistent with this experience, Dewey and Humber (1951) found that where there existed satisfactory marital relationships, there would exist an atmosphere that was assumed to be conducive to optimum personality development for the child. In turn, these people would be "better" parents for their children.

A fourth potential crisis area of the early maturational period was the predetermined attitudes of parents and their anxiety or disturbance over certain developmental peculiarities of the child. The parents' attitude could also be detrimental in the child's personality development, because of their attempt to mold the child's personality structure according to their ideals and beliefs to which the child had to conform. Griffiths (1952) in his study of behavioral difficulties in children, found that children, even at an early age, had a fairly good realization of what their parents and teachers believed to be the best possible behavior, but at this age the child's conception of better behavior was practically synonymous with obedience to adults.

The crux of parent-child relations, as far as the child in the family was concerned, appeared to be in the area of the child's perceptions of the parents, rather than in very definite and specific characteristics of home life. The manner in chich the child perceived the behavioral norms established by parents was functionally related to his

personality make-up. When the child misinterpreted parental attitudes, irrevocable personality destruction ensued.

The child, then, needed help in bringing his emotional responsiveness under regulation. Some children were more prone to anger and rage, others to fear and pain, so that each child required highly individualized care in meeting his peculiar personal reactions. Hawkes (1957) found that little knowledge of these factors was a hinderance in providing help in a constructive, rather than a repressive manner, because many had treated the problems as moral issues, meeting them with threats, punishment, shame, and often equally violent emotional reactions.

The fifth and perhaps the greatest crisis for the child during his early development was the need for sympathetic reassurance that will alley the child's panic and so help him to meet the situation more effectively. If not assisted early in life to become "himself," the child went forward with a capacity for violent unconscious or conscious reaction that his increasing size and strength made potentially dangerous.

The lack of reassurance and support led to fear and grief. These psychological states were difficult conflicts for the child to handle. Spitz (1945) found that these reactions were physiological and psychological in nature, which more or less paralyzed or restricted activity, unless fear activated flight. The child needed reassurance

and reinforcement in meeting the strange, unknown, and apparently threatening experiences that confronted him. Τſ the child's view was accepted, the usual mistakes could be avoided. Support in the form of reassurance and reinforcement was an effective method of dealing with a fear-producing situation, as found by Hawkes (1957). Yet, many of the fears of children were not physiological but rather a disguise for other needs which the child could not or did not reveal. It was the insecure, anxious child, the child who was not sure of himself or his place in the family or group, who appeared fearful of situations that had no terrifying character, so that explanations and reassurances of safety were irrelevant. Where children were reared under a constant threat of danger, the parents instilled fear before the situation became a protective one for the child, or where the environment itself was a constantly terrifying experience. Again, many children had suffered really shocking accidents or exposures to danger which were indelibly impressed upon them, resulting in a fear of repetition.

Burchinal, Hawkes, and Gardner (1957) found the emotional reactions of the parents, especially the father, were of crucial importance for the future psychological adjustment of the child. As a member of a group where there existed a rejecting atmosphere, it was necessary for the child to acknowledge and accept authority, to recognize a regulator and controller outside himself. This dominant

figure was an arbiter of conduct that was largely traditional, not reasonable or based upon anything but custom. Brown (1942) found that the child must learn to observe in his conduct the repressions and frustrations required by the inviolability of things and persons, and equally he must learn to perform various acts, from small courtesies to more important duties appropriate to his sex. The development of such conduct involved the constant recognition and willing acceptance of the authority of the state, which to be really effective, needed to function, not in physical coersion and police supervision, but within the individual himself.

Instead, then, of accepting the inviolabilities or the required performances, the child so treated failed to build those conduct patterns into an integrated whole wherein his behavior and personality merged. He might outwardly conform to what was demanded or prohibited, but only because of fear and anxiety. The learned conduct essential to group life was never assimilated or made wholly automatic, and so the child became preoccupied with the conflict between what he must do and not do and what he felt. Wright (1959) found that the child often released his feelings in misbehavior that was difficult to understand. The learned conduct gave the child nothing of value and usually was wholly incongruous with the situation.

The aberrant actions were symptoms of conflict, modes of expressing resentment or hostility against authority that had made him fearful and unhappy.

The many crises and conflicting adjustments to which the young child was submitted, desperately stimulated in him a need for the security of persistent and dependable human relations. The frequent cry against any repression of the child involved a confusion that was often tragic for him. When the child was able to adjust to these situations, he was free for other possible activities and interests that could not be possible if the atmosphere were hostile or repressing. Learned patterns are the chief factors in man's ability to develop beyond a purely organic existence. It is not the ordering of life that damages the child, but the distortions, fears, anxieties, and permanent frustrations which in many instances strike suddenly without warning. One of these distortions which effected severe personality disturbances through deprivation, was hospitalization and institutionalization in which the child was abruptly taken from the protective, warm environment of the home and placed in a situation that was threatening and cold.

## The Effect of Hospitalization on Psychological

and Physiological Growth of Children

In recent years, much research and experimentation (Goldfarb, 1944; Lowrey, 1940; Ossenberg, 1962; Spitz, 1965) has been accomplished with deprived children. The purpose of these studies was to somehow assist in the personality development of such children; however, the end results reflected a destruction or disintegration of the child's emotional and psychological adjustment. Children who had spent several years in broken homes or in a hospital setting emerged with what Bender called "crippled personalities" (1945, p. 3).

The studies of Bowlby (1952), Spitz (1945), and Goldfarb (1943) evaluating deprivation, implied that the child could stand unbelievable hardship if he only had the basic security of daily contact with mother. The one great tragedy was a break or interruption in this mother-child relationship. When there was a mood change or increased anxiety in the mother for long periods of time, this could become a disturbing factor to the happiness and normal development of the child, but it was less likely to be as fatal either to life or personality maturation than separation.

Today, many homeless children have been given over to nurses much better trained than in past years.

These children have been given the best of physical care and protected as far as possible from all physical harm and infection. Even under ideal situations many children entered a state of shock and died.

Ayer and Bernreuter (1937) have shown in their studies the importance of loving, mothering care which stimulated every sensory field for the early responsiveness of the child and built his growing alertness and capacity to take in and use life's experiences. Loving affected his capacity to respond to food, warmth, human relationship, noises and language, thought, visual patterns, ideas and future goals based on past experiences. As Spitz mentioned:

A progressive development of emotional interchange with the mother provides the child with perceptive experiences of its environment. The child learns to grasp by nursing and by combining the emotional satisfaction of that experience with tactile perceptions. He learns to distinguish animate objects from inanimate ones by the spectacle provided by his mother's face in situations fraught with emotional satisfactions. The interchange between mother and child is loaded with emotional factors and it is in this interchange that the child learns to play. . . His security is reinforced by her being at his beck and call. In these emotional relations with the mother, the child is introduced to learning, and later to imitation (1945, p. 68).

Douglas (1958) brought out another factor that was not emphasized in previous research, i.e., that children became disturbed not only because they were deprived of a continuous flow of a mother's love, but also because the children were separated from familiar surroundings and the normal constellation of family life. These children showed

a personality defect that was easily recognizable and which Bender called the "socially deprived psychopathic personality" (1945, p. 8). Durfee and Wolf (1933) stated that the two most important factors creating psychological injury in children residing in hospitals over long periods were: (1) lack of stimulation (even the most destitute of homes offered more mental stimulation than the usual hospital ward), and (2) the presence or absence of the child's mother.

The staff of some hospitals and institutions through individual attendants, attempted to conquer these devestating effects of deprivation with warmth and concern (Lowrey, 1940). The particular methods adopted mitigated the effect for some children more than others. Some longterm hospitalized and institutionalized children were shown to have made a "passable" adjustment in later years, but there was little doubt that they too would have developed more richly had they grown up in families. The reason for poor or marginal adjustment after institutionalization according to Lowrey was that:

. . . the institutional setting can not help but lack in most of the personal and emotional stimuli which go to make up a home environment. That this personality seriously affects the child's ability to adjust in a foster home or hospital is not amazing (1940, p. 584).

Spitz agreed with Lowrey:

. . .

The opportunities for an outlet for their interests, ambitions, activity, are very much impoverished. The former sexual satisfactions as well as the satisfactions of competitive

activity are suddenly stopped: regulations prohibit flashy dresses, vivid nail polish, or extravagant hair-do's. . . In addition, they do not have compensation in relations with family and friends, as formerly they had (1945, p. 64).

Research has also shown that immobilization does not always produce similar results. Studies such as Lewis (1954) and Beres and Obers (1950) have shown that deprivation has by no means a consistent outcome in all cases. According to Beres and Obers, 160 deprived children followed up into late adolescence had made passable adjustment in all but two cases and half had made very satisfactory adjustment. Although these findings suggested a fluctuation in results, most research in the area of deprivation was consistent with the conclusions of Marlens:

. . . that hospitalized and non-hospitalized children differ significantly with respect to performance on the Human Figure Drawings, the Rorschach, and the TAT; that concomitant to hospitalization, the pediatric patient manifests a distinctive reaction pattern consisting of feelings of being rejected and punished, somatic preoccupation and general anxieties, depression, and insecurity (1960, p. 3386).

The structure of the typical deprived personality was characteristically undeveloped (Spitz, 1945). As Goldfarb stated, deprivation resulted:

. . . in a dramatic arrest in all aspects of his development and in the formation of a characteristically atypical type of personality (1944, p. 106).

### Using the Graphic Rorschach Examination, he also found that:

The institution child showed a greater trend to deviation from the normal pattern. This deviation

is represented in an unusual adherence to the "concrete" attitude and conversely in inadequate conceptualization. This concretivity is specifically represented in such qualities as apathy in relation to environment (1943, p. 222).

As the personality of the child unfolded, it was important and essential that it unfold in an atmosphere that was warm and under the protection of mother or a mother substitute.

Children whose mothering and home experience was interrupted for long periods of time were not able to accept and adjust when this experience was offered at a later period. Bender (1945), Goldfarb (1944), and Lowrey (1940) found that after three years of institutionalization the changes effected were irreversible.

At an early age the deprived child was characterized as possessing hostile aggressiveness, attention demanding behavior, shyness and sensitiveness, stubbornness and negativism and selfishness. As the child grew older and the demands of the environment in general and society in particular increased, his behavior became progressively more asocial. During this period, Goldfarb concluded:

. . . there was the unusually defective level of conceptualization that was typical of the institution group. It became apparent that the children had difficulty in organizing a variety of stimuli meaningfully and in abstracting relationships from them. . .

Even at late adolescence, these children are unable to remember or recall the past in any clear focused fashion, have difficulty in anticipating and grasping the future, and are completely at the mercy of the immediate environment to which their response is unorganized and ineffectual. . There is no doubt that their extremely concretistic, primitive modes of perception and conception have signal effect on their emotional relationships (1945, p. 249).

Also, much physiological involvement occurred when deprivation took place at an early age. Motor habits were retarded; in many instances they were not capable of helping themselves in the daily activities of self-help and also language was defective. Spitz (1946) found in his follow-up study on Hospitalism that there was a difference, physiological in nature (weight and height), which was considered a part of the total retardation and developmental imbalance. When the child was examined by psychological methods, he appeared to be mentally retarded in every sphere of mental functioning.

Through intensive research on maternal deprivation and separation from the family atmosphere for long periods of time, Levy (1943), Lowrey (1940), Goldfarb (1943), and others revealed several common traits in the deprived personality. Should separation occur early in the developmental process, the child's behavior remained infantile. There was a need for immediate satisfaction of all needs. Screaming, kicking, temper tantrums and all of the disturbed behavior of which the older child was capable were their immediate responses to every frustration. Many of these behavior pecularities were not neurotic traits but unmatured infantile impulses. They were not regressions but

retardations in personality development. These children were attention seeking, passively-dependent, clinging, seductive, and emotionally apathetic. Their attentionseeking seductiveness might have been mistaken for a human relationship or capacity for attachment. However, there was no warmth to the relationship and it could stand no separation nor disappointments nor demands and it shifted to the nearest new object when the recipient was out of sight. This infantile behavior of the deprived child, according to Goldfarb, could be attributed to:

. . the routinized existence in the hospital. This existence can be characterized as unidirectional in that a major portion of the child's behavior during the day was dictated by group routine. The complicated interaction and, more particularly, reciprocation between adult and child so typical of family upbringing, was absent. In the family, greater recognition is given to the child's own reaction tendencies and he participates more actively in the establishment of his own life routine. In the family, he not only responds to environmental stimulation but does so with active and conscious expression of his own feelings and desires. . . . The child is also actively encouraged to express his own unique will. The social atmosphere in hospitals and institutions is one which . . . favored conformity to group routine. . . . It is this plant-like atmosphere which, therefore, may have operated to produce the passivity of the total personality of the institution child. . .

Also, the contradiction between the hunger for affect and the inability to respond to normal relationships cause the deprived child to resort more consistently to a defense of emotional isolation, resulting in apathetic social responses and a pattern of personal non-involvement in life tasks which ordinarily are accompanied by feeling reactions (1943, p. 127). Serious defect in the language development of deprived children emerged which in later years concerned itself more with the semantic function of language and especially with conceptualization and social concepts. Without the warmth and identification with the family unit during the period of habit training and rapid development of concept formation, higher semantic and social development and the expansion of educational capacities can not take place.

Primary defect appeared in ability to identify in the child's relationships with other people. The lack of ability to identify was related to the fact that the deprived child never experienced a continuous identification during the early period. Along with the lack of capacity for identification or forming object relationships was a lack of capacity to feel any anxiety or guilt. Perhaps, anxiety and guilt were not instinctual qualities as many had believed, but they arose in reaction to threats to object relationship or identification processes -- in other words, threats to the relationship of the child with the person he loved. Marlens (1960), in his study of the effects of hospitalization on children, found that the postulated characteristic syndrome of Anxiety-Depression-Insecurity differentiated significantly between hospitalized and non-hospitalized children.

According to Wright's (1959) studies, there was an imitative, passive "as-if" quality to the behavior of the older children. This was because there was the inner drive to mature and behave like an average person. Whereas, in the average child behavior arose from internal mechanisms such as identification processes, object relationships, anxieties and symbolic fantasy life. This type of psychopathic child had no such inner life. He had, however, the biological or intellectual capacity to perceive and use symbols and patterned behavior. Therefore, he tried to copy the behavior of other children. This was done in an effort to understand what other children were experiencing.

In conclusion, the child who was separated from his parents for long periods of time reflected diffusely unpatterned, impulsive behavior. His behavior was unorganized and remained unorganized through life. The child was driven by impulses which demanded immediate satisfaction. These impulses and needs changed as physiological growth occurred but the pattern still did not form and, at the same time, there was no means of satisfying the impulses.

Once childhood had been passed without adequate opportunity for normal relationships and persoanlity development, the organization of the personality and retardation in development seemed to permit no modification. One could not treat these children at a later date as though

they were well-loved infants, hoping to compensate for the early deprivation, because the physiological and psychological patterns were set.

The immobilized child's personality became disabled and lasted beyond the stage separation or deprivation took place. Although the child matured physiologically, his intellectual functions remained simply patterned. There was a lack of any true insight.

These aforementioned deficiencies which emerged in deprived children give a dramatic example of the significance of the human element in the child-parent --relationship. The human element plays a major role in making it possible for the inherent capacities of the individual to develop fully so that he can become a mature, forward-looking person, capable of giving and taking, learning and identifying.

The child constantly perceived the outer world both physically and socially, and he gradually became aware of people and things about him by virtue of their influence on him and his influence on them. These processes should occur in the secure environment of a human family relationship.

The research cited was representative of many studies that have been concerned with the psychological effect of immobilization on children and adolescents. Although extensive assessment of personality factors of

deprived children has been presented, little coherence and agreement of results was reached. The evaluation of a more general factor, that of the symbolic process and its clinical intricacies, was of practical value only to the extent that it significantly differentiated between the child who has been immobilized over an extensive period of time and the child who has not been immobilized.

#### CHAPTER II

#### THE DESIGN

### Problem

Although much research has been accomplished in the area of deprivation (Beres and Obers, 1950; Burchinal, Hawkes, and Gardner, 1957; and Goldfarb, 1943, 1944) little concern was given to particular personality characteristics of deprived children which were effected by immobilization and separation. There was even less concern over the degree to which deprivation effected symbolic processes in children. Since it could hardly be expected that research concerning deprived children forego a molecular approach to personality assessment, it would seem valuable to know more about the symbolic performance of deprived children in order to better understand the process of symbolization and how it was effected by immobilization through hospitalization. The purpose of this study was to determine if length of immobilization was a significant factor in the symbolic performance of children.

With respect to the literature reviewed, no author examined in detail the effect of immobilization on the

symbolic performance of children. Do symbolic differences exist between long-term hospitalized children (Recidivists) and short-term hospitalized children (Non-recidivists) as measured by the Kahn Test of Symbol Arrangement?

### Hypotheses

In order to determine the differences in psychological development of long-term and short-term hospitalized children, the following general hypothesis was formulated: If length of stay in a hospital is an important factor in the symbolic development of children, then a higher level of symbolization would be expected for those children whose length of immobilization is minimal compared to those children whose length of immobilization is extensive.

The following specific null hypotheses were formulated:

 Recidivists exhibited no statistically significant difference in the number of "A" responses (Autism, Reality Distortion) when compared to Non-recidivist subjects.

2. Recidivists exhibited no statistically significant difference in the number of "B" responses (Insecurity, Hostility, Fear of Self) when compared to Non-recidivist subjects.

3. Recidivists exhibited no statistically significant difference in the number of "C" responses (Rigidity, Compulsiveness and Stimulus-Bound) when compared to Non-recidivist subjects.

4. Recidivists exhibited no statistically significant difference in the number of "D" responses (Emotional Immaturity, Resistance) when compared to Nonrecidivist subjects.

5. Recidivists exhibited no statistically significant difference in the number of "E" responses (Materialistic, Emotionally Apathetic) when compared to Non-recidivist subjects.

 Recidivists exhibited no statistically significant difference in the number of "F" responses (Impulsiveness, Emotional Lability) when compared to Nonrecidivist subjects.

7. Recidivists exhibited no statistically significant difference in the number of "X" responses (Primitive Conceptualization, Degree of Imagination) when compared to Non-recidivist subjects.

8. Recidivists exhibited no statistically significant difference in the number of "Y" responses (Emancipation from Stimuli) when compared to Non-recidivist subjects.

9. Recidivists exhibited no statistically significant difference in the number of "Z" responses (Active Imagination, Idealism, Capacity to Substitute) when compared to Non-recidivist subjects.

#### Sample

A sample of 60 children selected in a random fashion (toss of a coin) from a population of 150 students enrolled at the University of Oklahoma Medical Center's Children's School between the months of February and June of 1966 were used in this study. The sample was limited to children falling within the age range of 13 through 16 years for the following reasons: (1) They were at a stage where integration of biological and psychological growth was taking place. (2) They were on the threshold of entering the accelerated and sometimes traumatic period of adolescence. (3) The pressures of conforming to expected norms of our culture had not been too deeply inculcated in the child to smother his spontaneous answers to the questions.

The children randomly selected for the Recidivist group (n = 30) consisted of those subjects whose hospital charts showed histories of recurrent visits and in-patient care totaling over two years. This group was composed of those children who had been separated from both parents and home environment for over two years as well as those

children who had spent several months each year in a hospital for in-patient care and who had accumulated over two years of hospitalization.

The Non-recidivist group (n = 30) was composed of subjects whose hospital charts showed no previous hospitalization. This group was comprised of those children who had never experienced staying in a hospital setting more than 24 hours since birth.

## Procedure

The <u>Otis Test of Mental Ability</u> (<u>Intermediate</u>, <u>Form A</u>) was administered to the entire selected sample. In terms of the <u>Otis Test of Mental Ability</u> results, the <u>Recidivists</u> (n = 30) and Non-recidivists (n = 30) were separated into average and above-average mental ability (80 I.Q.-above) and below-average mental ability (below-70 I.Q.). Since mental age range of 70 to 80 is usually accepted as the range which separates mental deficiency from normality (Wolman, 1965, p. 840), it was used in separating the selected sample into the distribution shown in Table 1. A phenomena that arose in the selection of the sample was the emergence of an equal number of subjects possessing average mental ability.

TABLE	1
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DISTRIBUTION OF SELECTED SAMPLE BY MENTAL ABILITY AND SEX (N = 60)

Group	Recidivist	Non-recidivist			
Average and Above-	Male = 6	Male = 9			
Average Mental Ability	Female = 9	Female = 6			
Below-Average	Male = 8	Male = 8			
Mental Ability	Female = 7	Female = 7			
	n = 30	n = 30			

The <u>Kahn Test of Symbol Arrangement</u>, hereafter referred to as the KTSA, was chosen for several reasons:

1. It possessed challenging performance tasks and had the ability to evaluate symbolic aptitude uncontaminated by environmental influences.

2. Through figure sorting, the KTSA revealed the emphasis the testee placed on survival, compulsiveness and other symbolic material which was not readily accessible in other tests of symbolization.

3. Underlying motivation and abstractive ability were measured simultaneously.

The KTSA was designed:

. . . to be representative of the totality of life, where the basic physical structure of the universe is represented by the form factors and physical characteristics inherent in the test objects and the felt strip. The element of
individual freedom is represented by the selfexpressive choice offered the test subject in selecting and placing the objects and in making value judgments (Hill and Latham; 1962, p. 9).

The KTSA included 16 culturally structured objects and a cloth strip. The protocol used by the administrator was arranged in such a manner as to provide a means of recording the majority of significant behaviorisms of the subject. This instrument was geared primarily to individual administration, but could be administered to a group although it was more difficult and less satisfactory. In any event, individual administration was necessitated because of the various physical dysfunctions of the subjects comprising the sample. Separate norms for sex differences were not warranted since such studies as Theiner (1962) suggested that variation in the sex of the subjects had no significant effect on overall abstractive value of the test results.

The results of studies evaluating the diagnostic usefulness and validity of the KTSA (Theiner, Hill, Latham, and McCarty, 1962; Kahn, 1955; Kahn, Harter, Rider, and Lum, 1956; and Fink and Kahn, 1959) suggested that the KTSA was effective in differentiating various psychological maladjustments in both children and adults as well as differentiating the two clinically similar groups of organic and chronic psychotics and schizophrenics. In one study (Kahn, 1951), 59 of 74 types of responses were found capable

of differentiating a non-psychotic from a psychotic group at better than the .Ol level of significance. In another study by Kahn (1957) involving blind sorting by symbol pattern alone, only three normals and three neurotics were misclassified as psychotics out of 290 subjects of whom 114 were non-psychotics.

Scoring reliability and agreement was studied by Kahn (1951), Clack, Guerin, and Latham (1966) using the test-retest method yielding a correlation of .95 on 25 cases of an unselected male group, retested after six months. Also, the results of studies by Hill, Latham, and Theiner (1963), and Craddick and Stern (1965) suggested that the KTSA can be consistently interpreted by individuals ranging in various levels of professional training.

The main portion of the KTSA dealing with abstraction was Arrangement Two, Level of Symbolization. The purpose of the KTSA Level of Symbolization was to obtain a measure of willingness to accept and acknowledge abstractions which had been "hand tailored" by the culture as well as one of capacity to abstract. In nine different levels of symbolization or abstraction, Kahn and Murphy stated, ". . . both the ability to abstract and motivation to accept cultural abstractions are tapped simultaneously" (1958, p. 197).

The premise underlying the outcome on the KTSA was that the individual would interject his needs. He

would react holistically with all of his dynamics concentrated at a given point, at a given time. The individual's total personality would act and react with all the elements in his environment. Because of this reaction, the arrangement of objects and his feelings about the objects would express these needs. His approach to the objects and resultant arrangement would mirror his approach to daily activities of his life.

The responses may range from very bizarre to a high quality of abstraction. These responses were then categorized according to nine levels of abstraction, each possessing, ". . . dynamic material regarding his personal adjustment" (Kahn; 1956, p. 3).

A description of each category and the related clinical types is presented in Table 2.

#### TABLE 2

DESCRIPTION OF ABSTRACTIVE LEVELS AND RELATED CLINICAL TYPES ON THE KAHN TEST OF SYMBOL ARRANGEMENT

Factor	Types of Response	Clinical Types
A	Bizarre, Illogical	Autism, Reality Distortion
В	No Reason, No Symbolization	Insecurity, Hostility, Fear of Self
С	Same as Before	Rigidity, Compulsive & Stimulus-Bound
D	Naming or Giving Its Function	Resistance, Inhibition, Emotional Immaturity
E	Shape, Material, Looks, Beauty, Design	Materialistic, Emotional Apathetic
म	Color, Absence of Color	Emotional Lability, Impulsivity
х	Concrete Association, Form Fidelity	Developing Degree of Imagination
У	Tangible Abstraction, Freedom from Original Shape & Size	Emancipation from Stimuli
Z	Intangible Abstraction, Freedom from Shape & Material Substance	Active Imagination, Idealism, Capacity to Substitute

The KTSA was administered to each subject of the sample in the manner prescribed by Kahn (1956). Every subject was asked to arrange each of 16 objects on the cloth strip five times under varying conditions. Each arrangement was important only insofar as it was part of the whole. Although Arrangement Two, Level of Symbolization, was the only arrangement pertinent to this study, it was essential to obtain these data within the context of the entire battery. When completing the second arrangement, the subject was asked what each of the objects stood for, represented or symbolized. These responses were recorded.

The responses to the KTSA in general and Arrangement Two, Level of Symbolization in particular were scored according to the revised scoring manual (Kahn, 1956) for the KTSA. For purposes of enhancing scoring reliability, three judges were used to score each of the KTSA protocols. Two graduate students in psychology at the University of Oklahoma were made thoroughly familiar with the scoring procedure of the KTSA and with the examples provided by Kahn (1956) for administration and scoring. Each of the three judges (two graduate psychology students and the investigator) independently scored each protocol according to instructions. The judges in turn scored 20 protocols randomly chosen from the sample. A coefficient of concordance was computed to determine agreement among the three judges and a W of 0.823, significant at the 1 per cent level, was obtained. It was concluded that a high interjudge reliability existed among the three judges, and that the computations of one investigator would serve as well as several judges.

#### CHAPTER III

#### PRESENTATION AND ANALYSIS OF DATA

Data from the 60 subjects were tabulated and presented in Tables 4, 5, 6, and 7 of the Appendix. These data were analyzed according to the Mann-Whitney method as described by Siegel (1956, p. 116-127).

In the general hypothesis, it was stated that a higher level of symbolization would be expected for those children whose length of immobilization is minimal (Non-recidivists) compared to those children whose length of immobilization is extensive (Recidivists). The data shown in Table 8 of the Appendix revealed the Recidivist group differed significantly from the Non-recidivist group with a difference (z = 5.57) statistically significant at the .00006 level. Non-recidivists with both average and above-average mental ability and below-average mental ability were statistically higher on the weighted sum of scores than those of the Recidivist group. Thus, the general hypothesis was confirmed and it was concluded that immobilization in a hospital setting had a significant influence on symbolic performance of children as assessed by the KTSA.

The nine specific sub-hypotheses were tested in order to determine the importance of various personality factors that Kahn (1956) mentioned as being involved in the symbolic process. A summary of the <u>Mann-Whitney U Test</u> for the nine sub-hypotheses, stated in null form, is presented in Table 3.

In sub-hypothesis 1, Factor A, it was stated that Recidivists exhibited no statistically significant difference in the number of "A" responses (Autism, Reality Distortion) when compared to Non-recidivist subjects. The results of the analysis of data shown in Table 3 suggested that the Recidivist group differed significantly from the Nonrecidivist group with a z value (4.38) which was far in excess of the value needed for significance at the .00006 level. Recidivists with both average and above-average mental ability and below-average mental ability reflected a significantly greater number of "A" responses than Nonrecidivists with similar mental ability. As a result, sub-hypothesis 1 was rejected, and it was concluded that the subjects of the Recidivist group were more autistic and had a greater tendency to distort reality than children of the Non-recidivist group.

In sub-hypothesis 2, Factor B, it was stated that Recidivists exhibited no statistically significant difference in the number of "B" responses (Insecurity, Hostility, Fear of Self) when compared to Non-recidivist subjects.

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MANN-WHITNEY U'S FOR SUB-HYPOTHESES 1, 2, 3, 4, 5, 6, 7, 8, 9

	Sub-hypotheses	KTSA Factor	Sum of Large R Score	Ranks Small R Score	U	Z	q
1.	Autism, Reality Distortion	A	1,115.0	687.0	677.5	4.38	.00006
2.	Insecurity, Hostility, Fear of Self	В	1,047.0	776.0	589.0	2.10	.04
3.	Rigidity, Compulsiveness, Stimulus-Bound	С	1,123.0	707.0	658.0	3.12	.002
4.	Emotional Immaturity, Resistance	D	1,101.0	727.0	638 <b>.0</b>	2.82	.006
5.	Materialistic, Emotional Apathy	E	971.5	858.5	507.0	.87	.40
6.	Impulsiveness, Emotional Lability	F	940.5	879.5	485.5	•55	.60
7.	Degree of Imagination	х	1,146.0	684.0	681.0	3.48	.0005
8.	Emancipation from Stimuli	Y	1,169.0	650.0	751.0	4.03	.00006
9.	Capacity to Substitute, Idealism, Active Imagination	Z	1,147.5	682.5	682.5	3.6 <b>0</b>	.0003

Investigation of the data in Table 3 revealed that subjects of the Recidivist group differed significantly in frequency of "B" responses from those of the Non-recidivist group with a z value (2.10) which was far in excess of the value needed for significance at the .04 level. Recidivists with average and above-average mental ability as well as the subjects with below-average mental ability reflected a significantly greater number of "B" responses than Non-recidivists with similar mental ability. Consequently, sub-hypothesis 2 was rejected, and it was concluded that the subjects of the Recidivist group were more insecure, hostile and possessed a greater fear of self than children of the Non-recidivist group.

In sub-hypothesis 3, Factor C, it was stated that Recidivists exhibited no statistically significant difference in the number of "C" responses (Rigidity, Compulsiveness, Stimulus-Bound) when compared to Non-recidivist subjects. The results summarized in Table 3 revealed the subjects of the Recidivist group differed significantly from the Non-recidivist group with a z value (3.12) which was far in excess of the value needed for significance at the .002 level. The Recidivists comprising both levels of mental ability reflected a significantly greater number of "C" responses than those of the Non-recidivist group with similar mental ability. Thus, sub-hypothesis 3 was rejected, and it was concluded that subjects of the Recidivist group

were more rigid, compulsive, and stimulus-bound than subjects of the Non-recidivist group.

In sub-hypothesis 4, Factor D, it was stated that Recidivists exhibited no statistically significant difference in the number of "D" responses (Resistance, Inhibition, Emotional Immaturity) when compared to Non-recidivist subjects. Data in Table 3 showed that responses of subjects in the Recidivist group differed significantly from those of the Non-recidivist group with a z value (2.82) which was far in excess of the value needed for significance at the .006 The Recidivists with both average and above-average level. mental ability as well as below-average mental ability reflected a statistically significant greater number of "D" responses than subjects of the Non-recidivist group with similar mental ability. Therefore, sub-hypothesis 4 was rejected and it was concluded that subjects of the Recidivist group were more rigid and concretistic than subjects of the Non-recidivist group.

In sub-hypothesis 5, Factor E, it was stated that Recidivists exhibited no statistically significant difference in the number of "E" responses (Materialistic, Emotional Apathetic) when compared to Non-recidivist subjects. Evaluation of the data in Table 3 revealed the Recidivist group differed from the Non-recidivist group with a z value (.87) which could not be considered significant at the .05 level. Recidivists with both average and above-average

mental ability and below-average mental ability did not reflect a statistically significant greater number of "E" responses than Non-recidivists. Therefore, sub-hypothesis 5 was confirmed.

In sub-hypothesis 6, Factor F, it was stated that Recidivists exhibited no statistically significant difference in the number of "F" responses (Emotional Lability, Impulsivity) when compared to Non-recidivist subjects. Inspection of the data in Table 3 revealed no apparent statistical difference between Recidivists and Nonrecidivists to warrant rejection of sub-hypothesis 6. The two hospitalized groups with similar mental ability did not reflect a statistically significant difference in the number of "F" responses. Therefore, sub-hypothesis 6 was confirmed.

In sub-hypothesis 7, Factor X, it was stated that Recidivists exhibited no statistically significant difference in the number of "X" responses (Developing Degree of Imagination) when compared to Non-recidivist subjects. Inspection of the results in Table 3 revealed the Nonrecidivist subjects differed significantly from the Recidivist subjects with a z value of 3.48 which was far in excess of the value needed for statistical significance at the .0005 level. Non-recidivists with both average and above-average mental ability and below-average mental ability reflected a significantly greater frequency of "X" responses

than Recidivists with similar mental ability. Therefore, sub-hypothesis 7 was rejected, and it was concluded that the subjects of the Non-recidivist group possessed a greater tendency to develop imagination than children of the Recidivist group.

In sub-hypothesis 8, Factor Y, it was stated that Recidivists exhibited no statistically significant difference in the number of "Y" responses (Emancipation from Stimuli) when compared to the Non-recidivist subjects. Investigation of the data in Table 3 showed that responses of those subjects in the Non-recidivist group differed significantly from the Recidivist group with a z value (4.03) which was far in excess of the value needed for significance at the .00006 level. The Non-recidivists with average and aboveaverage mental ability as well as those children possessing below-average mental ability reflected a significantly greater number of "Y" responses than subjects of the Recidivist group with similar mental ability. Therefore, sub-hypothesis 8 was rejected, and it was concluded that children of the Non-recidivist group were better able to emancipate from stimuli than children of the Recidivist group.

In sub-hypothesis 9, Factor Z, it was stated that Recidivists exhibited no statistically significant difference in the number of "Z" responses (Active Imagination, Idealism, Capacity to Substitute) when compared to the Non-recidivist

subjects. Inspection of the data in Table 3 showed that responses of those subjects in the Non-recidivist group differed significantly from the Recidivist group with a z value of 3.60 which was far in excess of the value needed for significance at the .0003 level. The Non-recidivist group with both average and above-average mental ability and below-average mental ability reflected a significantly greater number of "Z" responses than the Recidivist group with similar mental ability. Therefore, sub-hypothesis 9 was rejected, and it was concluded that subjects of the Non-recidivist group possessed a greater ability to .substitute as well as having an active imagination when compared to Recidivist subjects.

The <u>Mann-Whitney U Test</u> was used to determine if subjects possessing average and above-average mental ability showed a statistically significant difference from subjects possessing below-average mental ability on the overall weighted sum of scores of the KTSA. The subjects of average and above-average mental ability were expected to respond more readily to the KTSA than subjects of below-average mental ability. The data for the statistical analysis shown in Table 9 of the Appendix revealed a U of 639. The resulting z value of 2.75 was far in excess of the value needed for significance at the .006 level. The average and above-average mental age group of both the Recidivists and Non-recidivists reflected a significantly greater number of

responses and yielded a statistically significant higher weighted sum of scores than subjects with below-average mental ability in the Recidivist and Non-recidivist groups. The differences in amount of responses for the nine subhypotheses on the KTSA were summarized in Figure 1 in order to provide a clear basis for interpretation.

Sub-hypotheses 1, 2, 3, 4, 7, 8, and 9 reflected the greatest discrepency between the Non-recidivist and Recidivist subjects. As a result, the same sub-hypotheses were statistically significant at greater than the 5 per cent level. On the other hand, sub-hypotheses 5 and 6 reflected little apparent discrepency among the four groups as well as agreement in the frequency of response. Therefore, sub-hypotheses 5 and 6 were not statistically significant.



#### Summary of Results

The results of the present study based upon the KTSA weighted sum of scores for the Recidivist and Nonrecidivist groups revealed that length of stay in a hospital setting was influential in the symbolic performance of children. While the difference interpretable in terms of weighted total scores did appear in favor of the Nonrecidivist group, the evidence was not complete without further analysis of specific factors.

In order to add confidence to the general finding, the number of responses of the two groups were compared by factor and a strikingly consistent pattern emerged. Statistically significant differences were found for sub-hypotheses 1, 2, 3, and 4 where the Recidivist group reflected a greater number of responses than those subjects of the Non-recidivist group. This significant difference was interpreted as representing the subjects of the Recidivist group to be more insecure, hostile, autistic and rigid than subjects of the Non-recidivist group.

When analysis of the number of responses for sub-hypotheses 7, 8, and 9 was accomplished using the <u>Mann-Whitney U Test</u>, the subjects of the Non-recidivist group reflected a greater number of responses when compared to Recidivists. Therefore, it was concluded that the Non-recidivist children possessed a significantly higher degree of imagination, abstraction, and compulsivity.

Sub-hypotheses 5 and 6 relating to emotional apathy and impulsiveness were supported. No statistically significant difference between the Recidivist and Non-recidivist groups in number of responses was found. Therefore, the factors of emotional apathy and impulsiveness were characteristic of both groups and were not substantially effected by length of hospitalization.

#### CHAPTER IV

#### SUMMARY AND DISCUSSION

#### Summary

Abstractive ability and symbolic formation have been two processes which were of prime importance to the fields of education and psychology. Yet, little was actually known about the process of symbol formation and the effect of environmental influences on the symbolic performance of children. At the same time, less was known about the effect of long-term hospitalization of children on symbolic performance. It has long been thought that adequate physical care of children who were institutionalized over a long period of time, would adequately satisfy both their physical as well as psychological needs. However, current literature on deprivation in children, outlined in Chapter I, revealed that psychological effects of long-term institutionalization vary in their conclusiveness. One reason for this inconclusiveness existed in the concern of past research to evaluate specific personality differences such as anxiety and emotionality. Bender (1961) reviewed the experimental studies of deprived and

institutionalized children which had been carried out during the period from 1920 to 1957. Her research revealed that although psychological injury had been caused in many instances by lack of stimulation and absence of mothering, there was a failure to demonstrate consistent results in all cases. Lewis (1954), and Beres and Obers (1950) were also unable to find consistency in the study of deprived children. While observing the deprived group until late adolescents, they found that all subjects made adequate adjustment. On the other hand, studies of Spitz (1945, 1946, 1965), and Lowrey (1940) supported the hypothesis that long-term institutionalization resulted in the arresting of psychological as well as physiological maturation. Therefore, it can be concluded that studies of the psychological effects of institutionalization on children have failed to demonstrate consistency in their experimental findings.

The lack of consistent results led to the consideration of research where a comparison of long-term and short-term hospitalized children would be made concerning the basic mechanism of all thought processes, namely symbolization. The process of symbol formation was prior to and more encompassing than the specific personality variables alluded to in past studies. Because of this lack of research in the area of symbolic performance relating to deprivation, comparative results were not available.

This study was developed primarily to investigate if length of hospitalization was a significant influence on the symbolic performance of children. A secondary purpose of this research was to compare the two groups of hospitalized children with reference to specific personality factors.

The subjects used in this study were 31 boys and 29 girls selected from a total school enrollment of 150 students. The subjects ranged in chronological age from 13 to 16 years of age. Thirty of the subjects possessed belowaverage mental ability scores on the <u>Otis Test of Mental</u> <u>Ability</u> from 50 to 70, and the remaining thirty subjects achieved average and above-average mental age scores on the <u>Otis Test of Mental Ability</u> ranging from 80 to 130.

The groups possessing below-average mental ability scores and those possessing average and above-average mental ability scores were subdivided into long-term hospitalized children (Recidivists) and short-term hospitalized children (Non-recidivists). The Recidivist group was comprised of those children who had been separated from the home environment and constant parental atmosphere for over two years. The Non-recidivist group was comprised of those children who had not spent more than 24 hours in a hospital setting since birth. The <u>Kahn Test of Symbol Arrangement</u> was administered individually to each subject of both groups.

The results of the study sustained the general hypothesis concerning symbolic activity: A higher level of symbolization would be expected for those children whose length of immobilization is minimal (Non-recidivists) compared to those children whose length of immobilization is extensive (Recidivists).

Nine sub-hypotheses stated in null form were tested to determine whether Recidivists differed significantly from Non-recidivists in regard to specific personality factors. Two of the sub-hypotheses were statistically supported. They were: sub-hypothesis 5 --Recidivists exhibited no statistically significant difference in the number of "E" responses (Materialistic, Emotionally Apathetic) when compared to Non-recidivist subjects; and sub-hypothesis 6 -- Recidivists exhibited no statistically significant difference in the number of "F" responses (Impulsiveness, Emotional Lability) when compared to Non-recidivist subjects.

The remaining seven sub-hypotheses showed significant variability between the Recidivist and Nonrecidivist group in terms of frequency of response. It was found that Recidivist children differed significantly in that they were more inclined to distort reality, possess a greater amount of insecurity and hostility towards self and others, be more concretistic and rigid in contact with others, and possess less emotional maturity than

Non-recidivist children. The Non-recidivists, on the other hand, differed significantly from the Recidivist group in that they possessed a higher degree of imagination and ability to free themselves from concrete stimuli while having the ability to substitute.

Finally, the Recidivist and Non-recidivist subjects possessing average and above-average mental ability scores reflected a significant difference in number of responses and greater weighted sum of scores in comparison to subjects possessing below-average mental ability. The difference in response style may be attributable to a difference in level of aspiration displayed by the subjects of average and above-average mental ability in comparison to those of below-average mental ability.

#### Discussion

A considerable number of supported findings have emerged reflecting the influence of hospitalization on symbolic and personality maturation. The results of this study supported the premise that length of stay in a hospital or institutional setting could adversely effect personality characteristics but also symbolic performance which was a more encompassing concept of mental development.

Symbolic development progresses for most children even under the most adverse conditions. However, when the

atmosphere remains consistently restricted, the symbolic process is one of the first mental processes to be effected. It seemed to be a common practice of past research to accentuate specific personality variables as those tested in the sub-hypotheses of the present research, with conspicuous absence of that factor which gives insight into the majority of emotional conflicts -- symbolism. These findings possess important implications for the future study of psychological development of institutionalized children. The results suggest that the approach of past research was short-cited in that they did not evaluate the effect of institutionalization on the symbolic process. With further research in the area of symbolization, more consistency in research on deprivation may occur. As a result, the hospital atmosphere and methods of rearing children in such an environment could be modified and changed in order to cope with symbolic disintegration.

The results of the present study supported the findings of Bender (1945) and Spitz (1945, 1946) in that children hospitalized over a long period of time developed "crippled personalities." However, deprived and non-deprived children, using symbolic performance as a criterion variable, were not studied. Although different methodologies were used to evaluate personality differences, the present study does support Bender's (1945) and Spitz's (1945, 1946) findings that deprived children reflected a greater distortion of reality,

hostile aggressiveness, concrete thinking and emotional immaturity than those raised in the protective environment of the home.

The findings of this study did not agree with those of Lewis (1954) or Beres and Obers (1950) who found that many children were able to make "passable" adjustment to the environment when confronted with an immobilizing situation. However, these authors did not evaluate symbolic performance; thus, no comparison could be made concerning the effects of hospitalization on symbolization.

In view of the findings of the present study, certain factors seem warranted:

1. This study analyzed the role of symbolization and the apparent differences that exist between Recidivist and Non-recidivist children. A more concentrated effort in the study of symbolic performance and the effect of parent-child relations on symbol formation might profitably be developed more intensively.

2. A further concentration of research should be accomplished on the role of need hierarchies and the value systems of long-term hospitalized children. Through this research, increased insight might be gained into the importance the child places on family relations, peer influence and social contact.

3. Previous research has indicated that the age at which the child was institutionalized was instrumental

in the amount and type of personality disintegration. However, this result may not be the case when evaluating the symbolic process. It might prove fruitful to repeat this study as designed, but with a younger group of children. Should consistency be found between such a study and the present findings, it would support the proposition that age is not a significant factor.

4. The present study also noted a significant difference in the number of responses between the average and above-average mental age group and the below-average mental age group. This finding may be related to the varying interest patterns of the groups considered. Further exploration should be concentrated on the response style of children with varying degrees of intelligence when using the KTSA instrument.

In conclusion, the findings of this study support earlier studies which maintain that specific personality factors are arrested and negatively effected by hospitalization over a long period of time. The results of this investigation gave evidence that children in the Recidivist and Non-recidivist groups differed significantly with respect to abstractive and symbolic performance on the <u>Kahn Test of</u> Symbol Arrangement.

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# APPENDIX

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TABLE	4		
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NON-RECIDIVISTS -	AVERAGE	28	ABOVE-AVERAGE	MENTAL	AGE

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Subjects	Age Chronological	Mental	Sex	Su A	b-hy B	poth C	esis D	Raw E	Sco F	re F	acto Y	rs Z	Weighted Sum of Scores
1     2     3     4     5     6     7     8     9     10     11     12     13     14     15	Yrs-Mos 16- 0 15- 9 14- 3 13- 1 13- 1 13- 0 13- 2 14- 9 13- 1 13- 2 16- 0 15-11 14- 5 13- 2 13- 2 13- 0	94 98 96 99 95 93 90 91 103 87 114 105 88 129 119	M M M F M F M M F F F M F M M		0 1 3 1 5 0 3 1 1 3 0 1 6	1 0 4 0 2 1 4 0 2 3 0 2 3 0 1	1 5 1 3 4 4 3 6 0 1 1 3 0 1	34 0 31 1 1 1 30 32 3 3	63001 103231 1630	4 35 13 95 1 5 99 5 4 6 90	953378435311235	1 592 1 1 5 3 10 11 6 8	$     \begin{array}{r}       107 \\       109 \\       118 \\       99 \\       97 \\       81 \\       95 \\       63 \\       118 \\       95 \\       120 \\       119 \\       85 \\       118 \\       111     \end{array} $
n = 15	211-10 x̄ = 14-1	1,501 X = 100	9-М 6-Г	0	29	21	34	27	30	100	62	64	1,535 X = 102

Subjects	Age		Sex	Su	b-hy	poth	eses	Raw	Sco	re F	acto	rs	Weighted Sum of
	Chronological	Mental		A	в	C	D	E	Ъ.	X	Y	Z	Scores
<u>, , , , , , , , , , , , , , , , , , , </u>	Yrs-Mos												
1 2 3 4 5 6 7 8 9 0 11 12 3 4 15	14-11 $15-4$ $16-0$ $13-7$ $13-0$ $13-11$ $16-0$ $13-1$ $15-9$ $13-1$ $13-9$ $14-5$ $14-3$ $14-10$ $14-2$	65 70 66 63 63 63 62 76 63 62 61 63 61	MMFMFFMFFFMMMMF	000100000000000000000000000000000000000	04 3554 38 54 1 34 35	661733484364217	94 926 72 51 36 32 92	130233210123202	0500222040402020	208712235224287	111425444312414	<b>いちょうののの</b> また。	72 60 572 567 76 76 76 61 661 77 52 72
n = 15	216- 1 x̄ = 14-5	985 <b>x =</b> 66	8-м 7-f	1	57	65	70	25	21	55	41	28	1,011 X = 67

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### NON-RECIDIVISTS - BELOW AVERAGE MENTAL AGE

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TABLE 5

TABLE	6
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RECIDIVISTS -	AVERAGE	<u> </u>	ABOVE-	AVERAGE	MENTAL	AGE
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Subjects	Age Chronological	Mental	Sex	Su A	<u>b-hy</u> B	poth C	esis D	Raw E	Sco F	re F X	acto Y	rs Z	Weighted Sum of Scores
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Yrs-Mos 13- 5 14- 3 14- 8 14-10 13- 6 15- 7 13-10 13-10 13-11 16- 0 14- 7 14- 8 15- 1 16- 0 16- 0 16- 0	92 103 94 96 96 93 101 85 98 100 87 105 115 91 112	<b>FFMFMFMFMF</b> FFFF	1 0 1 0 0 1 1 3 0 4 0 0 0 0	4 348 535164 27012	59567458284571 11	98 34 97 11 11 11 276 4	014004011301240	2 1 4 2 1 0 0 0 0 1 1 2 1 3 1	122025631261342	2012013210061111	000200450300323	40 350 522 585 735 54 665 58 58
n = 15	220- 2 X = 14-8	1,468 x = 98	9-F 6-M	11	55	87	87	21	19	40	21	22	809 <b>x =</b> 54

TABLE 7	
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RECIDIVISTS	-	BELOW-AVERAGE	MENTAL	AGE
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Subjects	Age Chronological	Mental	Sex	Su A	b-hy B	poth C	eses D	Raw E	Sco F	re F X	acto: Y	rs Z	Weighted Sum of Scores
	Yrs-Mos										<u></u>		
1 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 8 9 0 11 2 8 9 0 11 2 8 9 0 11 2 8 9 0 11 2 8 9 0 11 2 8 9 0 11 2 8 9 0 11 2 8 9 0 11 12 8 9 0 11 12 8 9 10 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 11	13-11 $13-7$ $14-7$ $13-8$ $13-1$ $14-6$ $13-1$ $13-0$ $16-0$ $14-0$ $13-1$ $15-1$ $15-1$ $15-3$ $14-6$	65 67 652 768 663 664 69 614 67 70	<b>MMFFMFFMMFMMFF</b>	0 0 1 1 0 1 0 2 2 1 2 1 1 0	932239860736029	7 6 0 0 0 7 3 2 8 7 10 0	204875446784145	1123331120113	0 1 1 0 3 3 0 1 6 1 0 1 0 1 3	2 1 3 2 0 3 0 2 3 4 1 1 1 3 3	223201033111231	10000000000000000000000000000000000000	49 41 54 30 34 74 38 52 50
n = 15	213- 1 X = 14-2	985 <b>x</b> = 66	8-м 7-ғ	12	79	75	99	24	21	29	25	5	691 X = 46

## TABLE 8

# MANN-WHITNEY U TEST FOR NON-RECIDIVISTS AND RECIDIVISTS FOR KTSA WEIGHTED SUM OF SCORES

	NON-R	ECIDIVISTS		RECIDIVISTS					
	Subject	Weighted Sum of Scores	Rank	Subject	Weighted Sum of Scores	Ran <b>k</b>			
Average and Above-Average Mental Ability	1 2 3 4 5 6 7 8 9 0 11 2 3 4 5 12 12 12 12 12 12 12 12 12 12 12 12 12	107 109 118 99 97 81 95 63 118 95 120 119 85 118 111	53.0 54.0 57.0 52.0 51.0 49.5 57.0 57.0 59.0 59.0 59.0 57.0 55.0	1 2 3 4 5 6 7 8 9 0 11 2 3 4 5 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 12 3 4 5 6 7 8 9 0 11 12 3 4 5 6 7 8 9 0 11 12 3 4 5 8 9 0 11 12 3 4 5 8 9 0 11 12 3 12 12 12 11 12 11 12 12 12 11 12 11 12 11 12 11 12 11 12 11 12 11 11	40 35222 5857574 5558 73574 66558 54	8.00 370.050 207.44 200.550 207.44 200.550 207.44 200.5500 200.55000 200.55000 200.55000 200.55000 200.55000 200.550000000000			
Below-Average Mental Ability	1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 8 9 1 1 2 8 9 1 1 2 8 9 0 11 1 2 8 1 1 2 1 1 2 1 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1 1 1 1 1 2 1 1 1 1 1 2 1	72 609 78 67 76 43 61 47 59 72	38.0 28.0 28.5 28.5 24.0 42.0 31.0 29.0 33.0 23.0 23.0 38.0 38.0 38.0 38.0 38.0 38.0 38.0 50 24.0 50 24.0 50 24.0 50 24.0 50 24.0 50 24.0 50 24.0 50 24.0 50 24.0 50 24.0 50 28.0 50 28.0 50 28.0 50 28.0 50 28.0 50 29.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 20.0 50 50 50 50 50 50 50 50 50 50 50 50 50	1234567890 112345 112345	491 5480 5347458520 55	14.5 9.50 19.50 16.00 17.05 17.05 140 140 140 140 140 130 10 17.05 17.05 17.05 17.05 17.05 17.05 17.05 17.05 17.05 10 140 140 140 140 140 140 140 140 140			
	Totals	$R_{1} = 1,$		R <sub>2</sub> =	532.0				

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## TABLE 9

## MANN-WHITNEY U TEST FOR AVERAGE AND ABOVE-AVERAGE AND BELOW-AVERAGE MENTAL ABILITY GROUPS FOR KTSA WEIGHTED SUM OF SCORES

AVERAGE & ABOVE-AVERAGE MENTAL ABILITY				BELOW-AVERAGE MENTAL ABILITY			
	Subject	Weighted Sum of Scores	Rank	Subject	Weighted Sum of Scores	Rank	
Non-recidivists	1 2 3 4 5 6 7 8 9 0 11 2 3 4 5 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 6 7 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 8 9 0 11 2 3 4 5 11 2 3 12 12 1 2 12 1 12 12 12 12 12 12 11 2 12 1	$     \begin{array}{r}       107 \\       109 \\       118 \\       99 \\       97 \\       81 \\       95 \\       63 \\       118 \\       95 \\       120 \\       119 \\       85 \\       118 \\       111     \end{array} $	53.0 547.0 547.0 551.0 550.0 500 500 540.5 500 547.0 55.0 55.0 55.0	1234567890 112345 15	72 609 788 776 776 776 776 776 779 729 72	38.0 26.5 28.5 28.5 24.5 24.0 41.0 31.0 33.0 34.5 38.0	
Recidivists	1 2 3 4 5 6 7 8 9 0 11 2 3 4 5 12 13 4 15	4040222575743585 587354665656	8.0 37.0 20.5 20.5 20.5 20.5 20.5 20.5 20.5 20	1234567890112345	491 5480 5347 458520 55	14.5 9.5 11.0 17.0 14.5 17.0 14.5 13.5 13.5 17.0	
	Totals $R_1 = 1,104.0$				R <sub>2</sub> = 726.0		

r