# THE RELATIONSHIP BETWEEN SOME FACTORS OF PARENTAL DEPRIVATION AND DELAY OF NEED-GRATIFICATION

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# ABSTRACT

## THE RELATIONSHIP BETWEEN SOME FACTORS OF PARENTAL DEPRIVATION AND DELAY OF NEED-GRATIFICATION

By Leonard Peter Campos

The purpose of this study was to explore the relationship between some significant gross parental deprivation factors and delay capacity by employing the method of a retrospective follow-up study. One hundred and three boys, of average intelligence, between 9 and 12 years of age, were sampled from six Michigan child-care institutions designed to care for "dependent and neglected" children who have been separated from their homes. The three parental deprivation factors investigated in this study were, (a) age at initial separation from parent(s), (b) duration of separation in substitute homes, and (c), number of separation movements.

On the basis of theory and a review of the research literature, three hypotheses were formulated: 1) Subjects (Ss) initially separated from their parent(s) before the age of 5 years -but after 6 months-("early separated") will show less delay capacity(more impulsivity) than Ss separated after this age("late separated"). This was termed the "critical age" hypothesis. 2) There will be a significant negative relationship between duration of separation

and delay capacity, i.e., the more time a subject spends in substitute homes, the less delay capacity he will exhibit. 3) There will be a significant negative relationship between number of separation movements(from one home or home-substitute to another) and delay capacity.

Three measures of delay capacity were individually administered to the Ss: a Story Completion Technique(SCT) devised by the author, consisting of 5 incomplete stories which Ss were instructed to complete and which were judged to measure capacity to delay need-acquisition(N-Acq), need-affiliation(N-Aff), need-aggression(N-Agg), need-nutriance(N-Nut), and need-achievement(N-Ach), respectively; the Sutton-Smith-Rosenberg Impulsivity Scale(IMP); and the Davids- Sidman monetary expenditure task(MET).

Hypothesis I was tested for each parent separately and was confirmed for initial separation age from the mother(M-ais) and on delay capacity as measured by the total SCT and N-Acq, N-Aff subtests. With respect to initial separation age from the father(F-ais), no significant differences between early and late separated Ss on the delay capacity measures were found. When product-moment correlations were calculated, it was found that the difference between "early" and"late" separated Ss (from the mother) was due as much to a low linear correlation between M-ais and delay capacity as it was to the so-called "criticality" of the five year age level.

Low but significant correlations were found between M-ais and overall delay capacity as measured by the SCT, N-Acq subtest, N-Aff subtest, and IMP. The relationship of initial separation age to delay capacity was found to be higher for M-ais than for F-ais across all delay measures except the N-Acq subtest(on which there was no difference between M-ais and F-ais). It was concluded that age of initial separation from the mother was more critical for the development of delay capacity in preadolescence than age of initial separation from the father.

In testing hypothesis II, a significant relationship was found between duration of separation and capacity to delay need- affiliation gratification as measured by the SCT N-Aff subtest(r of -.19). It was concluded from this finding that the more time a subject spends in substitute homes, the less capacity to delay need-affiliation gratification he will exhibit. With respect to hypothesis III, on the whole, frequency of separation movements was not significantly related to delay capacity. The correlation of this factor and impulsivity as measured by the IMP approached significance, however($p < .10$); i.e., the greater the number of shifts from one placement to another, the higher is the Ss' tendency to be impulsive (have low delay capacity) as measured by the IMP.

In examining the contribution of the three gross parental deprivation factors to the development of delay

capacity, it was concluded that M-ais was the most significant factor for the prediction of a subject's capacity to delay need-gratification. It was noted that the predictive power of this factor was nevertheless very low even when the effects of confounding variables are partialled out.

The issue of uncontrolled factors operative in suppressing a clear-cut relationship between "parental deprivation" and personality functions such as "delay capacity" was discussed and it was concluded that any assumption of the constancy of such uncontrolled factors is open to question. Also discussed were some implications of this study for future research.

Approved _____
Major Professor

Date May 14, 1963

# THE RELATIONSHIP BETWEEN SOME FACTORS OF PARENTAL DEPRIVATION AND DELAY OF NEED-GRATIFICATION

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# I. Introduction

## Theory

The role of the parent-child relationship in a child's ability or capacity to delay gratification of needs has been given a good deal of attention by psychoanalytic writers (Singer, 1955). The aim of the present thesis is to investigate the relationship between certain significant factors associated with the deprivation of a stable parent-child relationship in boys placed in institutional care and the capacity to delay gratification of needs, or impulse-control.

Within psychoanalytic personality theory, "delay of gratification" of needs is a pivotal explanatory concept for understanding the development of a child's ego functions(Rapaport, 1950, 1951). A basic assumption of this theory on the physiological level is that stimulation of an organism initiates a state of tension which seeks discharge, bringing about a state of gratification(Freud, 1900, 1911). In infancy, the neonate demands immediate gratification of its needs, i.e., behaves in accordance with the "pleasure principle". The arousal of a need tension pressing for discharge results in a restless discharge of motor activity which eventually subsides upon contact with a satisfying object, as, for example, the breast or bottle under conditions of need-nutriance arousal. When this restless motor activity has been repeated frequently

in association with the satisfying object, the absence in reality of the object(after a delay) leads to its 'hallucinatory representation' as soon as the motor innervation is initiated by the aroused need(cf. Singer, 1955). This developmental step reflects the operation of the pleasure principle.

With parental training the child soon learns to delay need-gratifications, i.e., his behavior develops in accordance with the "reality principle". This gradual change from the pleasure to the reality principle in behavior is achieved, as Fenichel(1945) states, "through the interposing of a time period between stmulus and reaction, by the acquisition of a certain tension tolerance, that is, of an ability to bind primitive reaction impulses by countercathexes"(p.51). This shift in behavior involves a change from wish-fulfilling to reality-oriented thought processes such as is reflected in planfulness and future time perspective. Eventually thought processes come to serve as substitute 'experimental action' for direct motor discharge as the discharge of need-tension is delayed(Rapaport, 1951).

Block(1950) formulated the concept of delay capacity in terms of the construct of "ego-control", or, "an individual's characteristic means of handling or mediating both his internal need-tensions and the demands imposed upon him by the external world"(p. 6). He conceptualized the ego control system as functioning to maintain an effectively efficient balance for the individual between immediate and delayed gratification of

needs. This balance is quantitatively expressed in terms of the ratio of degree of immediate over degree of delayed gratification of needs(IG/DG ratio). This ratio tends towards maximization as a consequence of the pleasure principle.

Individuals more or less maintaining an optimal IG/DG ratio are designated as appropriate controllers. They selectively bind and discharge their need tensions depending on the reality conditions of their life situations and consonant with internal motivation. Individuals maintaining an IG/DG ratio above the optimal range are designated as under controllers. They tend toward immediate gratification of their needs when such gratification may be inconsistent with the total situation or their ultimate goals. Such individuals make decisions impulsively and do not accumulate much tension before they"blow off steam". Individuals with an IG/DG ratio below optimal range are designated as overcontrollers. They delay gratification of their needs even when gratification would not be inconsistent with the total situation or ultimate goals. Because they tend to bind their need-tensions excessively, such persons accumulate large amounts before discharging them.

In relating individual differences in delay or control behavior to development, several writers distinguish between the early reliance on external controls(fear of punishment) and the later development of internal controls involving feelings of guilt derived from identification with the training

parents or parent-figures(Bandura & Walters, 1959). According to psychoanalytic theory as modified by Sears(1957) and others, the process of identification originates in a dependency relationship with parent-figures, particularly the mother, in the early years. A child's mother becomes associated with need-gratification and becomes valued as a means to attain it. The identification behavior refers to an acquired need-system for which the satisfying goal response is acting like another person, in this instance, the parent(Sears, 1957, p. 152). The child's imitation of the parent is demonstrated, for example, in his fantasy doll play in which he frequently adopts the parent role.

To a significant extent,the opportunity for parental identification based on stable parent-child ties is assumed to play a crucial role in the development of delay capacity. Precisely how this occurs is not yet clear. Singer & Sugarman (1955) speculate that,

> Perhaps children secure in a dependent relationship with one or both parents may be more capable of restraining motor responses directed towards gratification of needs during temporary absences of parents. Such restraint might be accomplished by fantasied identification with the activity of the parents. In the case of the relatively consistent and benign parents, the assurance of their return may reinforce delaying capacity and employment of fantasy as a temporary substitute(p. 117).

Goldfarb(1955) conceptualizes the constellation of intact parent-child ties as a "psychosocial climate" that provides for the expression of social emotions(attachment,

sympathy, love) which serve as the basis for the ability to delay immediate gratification of needs with the consequent development of imagination and planfulness. This 'climate' provides stability to the parent-child relationship and is present only when the basic biosocial unit of the family is intact. When the parent-child ties are broken, delaying capacity is assumed to be impaired. As employed in the present study, the term, "parental deprivation" refers to the absence or breakup of the basic biosocial unit of the family with the concomitant loss of need-gratifications consequent to the child's separation from his parents or parent-figures and placement in another substitute-home(relatives, boarding home, or institution).

A definition of the concept of "need" gratification is important for understanding the theoretical rationale of the present study. The term "need" has been defined by Miller & Swanson(1960) as "a system of action tendencies all of which implement the same goal state or end state."(p.123)

> The action tendencies are organized in an order of preference but anyone of them can be substituted for any other without changing the goal state. The goal state gives meaning to the interrelationship among action tendencies....We define needs only by their end states, the goals of the action....Examples of need systems are aggression, ambition, etc.(p. 124).

The expression of a need as an 'action tendency' implementing its goal or end state is well described in a conceptual schema discussed by McClelland, et. al.(1953) in their work on need-achievement:

> We perceive the behavioral sequence originating when a S experiences a state of need or a motive(N). He may also be anticipating successful attainment of his goal(Ga+) or anticipating frustration and failure (Ga-). He may engage in activity instrumental(I) to the attainment of the goal(I+) or not(I-). Sometimes his goal-directed activity will be blocked. The obstacle or block(B) to his progress may be located in the world at large(Bw) or it may be some personal deficiency in himself(Bp). He may experience strong positive and negative affective states while engaged in solving his problem, i.e., in attempting to gratify his motive. He is likely to experience a state of positive affect(G+) in goal attainment, or a negative affect(G-) when his goal directed activity is thwarted or he fails. Often someone will help or sympathize with him-nurturant press(Nup)- aiding him in his goal directed behavior(p. 108).

The authors diagram this analysis of the need-gratification behavior sequence as follows:

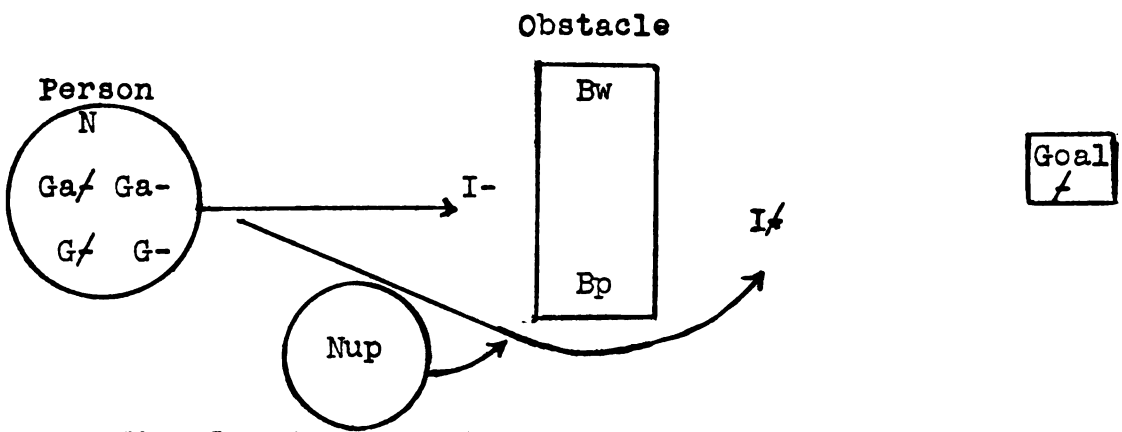



Fig. 1. Diagrammatic representation of a simple need gratification behavior sequence(From McClelland, et. al., 1953, p. 109).

The five states that a person may experience are located within the person in the diagram(the need, positive or negative affective states, and positive or negative anticipatory goal states). The arrowed lines indicate the instrumental activity involved in attempts to attain the goal.

The block in the center(which may also be located within the person) denotes the "barrier" which must be overcome if the goal is to be attained. The symbol of "nurturant press"(Nup), refers to another person(usually a parent), its attendant arrow indicating the direction of the aid. In the diagram above, aid is being given for the successful attainment of the goal. The goal is indicated by a plus sign, defining how the various anticipations, affective states, instrumental activity, and so forth, are related specifically to the goal. This analysis may be used to describe the behavior sequence of gratification of any need system.

As formulated in this study, the behavior sequence may consist of a choice situation in which a person is confronted with an immediate or delayed gratification of a need. This situation is diagrammatically represented as follows:

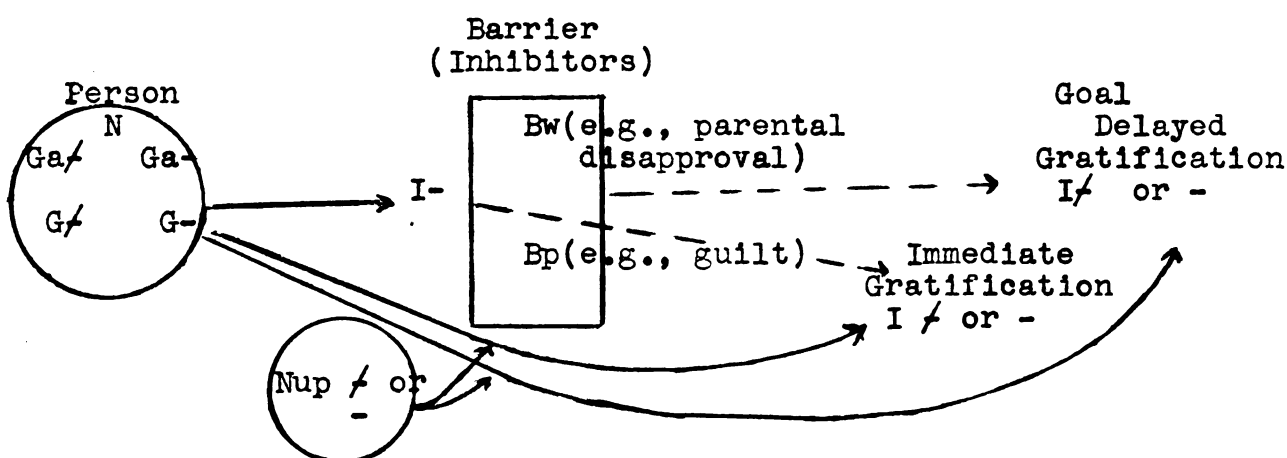



Fig. 2. Diagrammatic representation of immediate versus delayed need-gratification behavior sequence.

This diagram presented in figure 2 is an elaboration

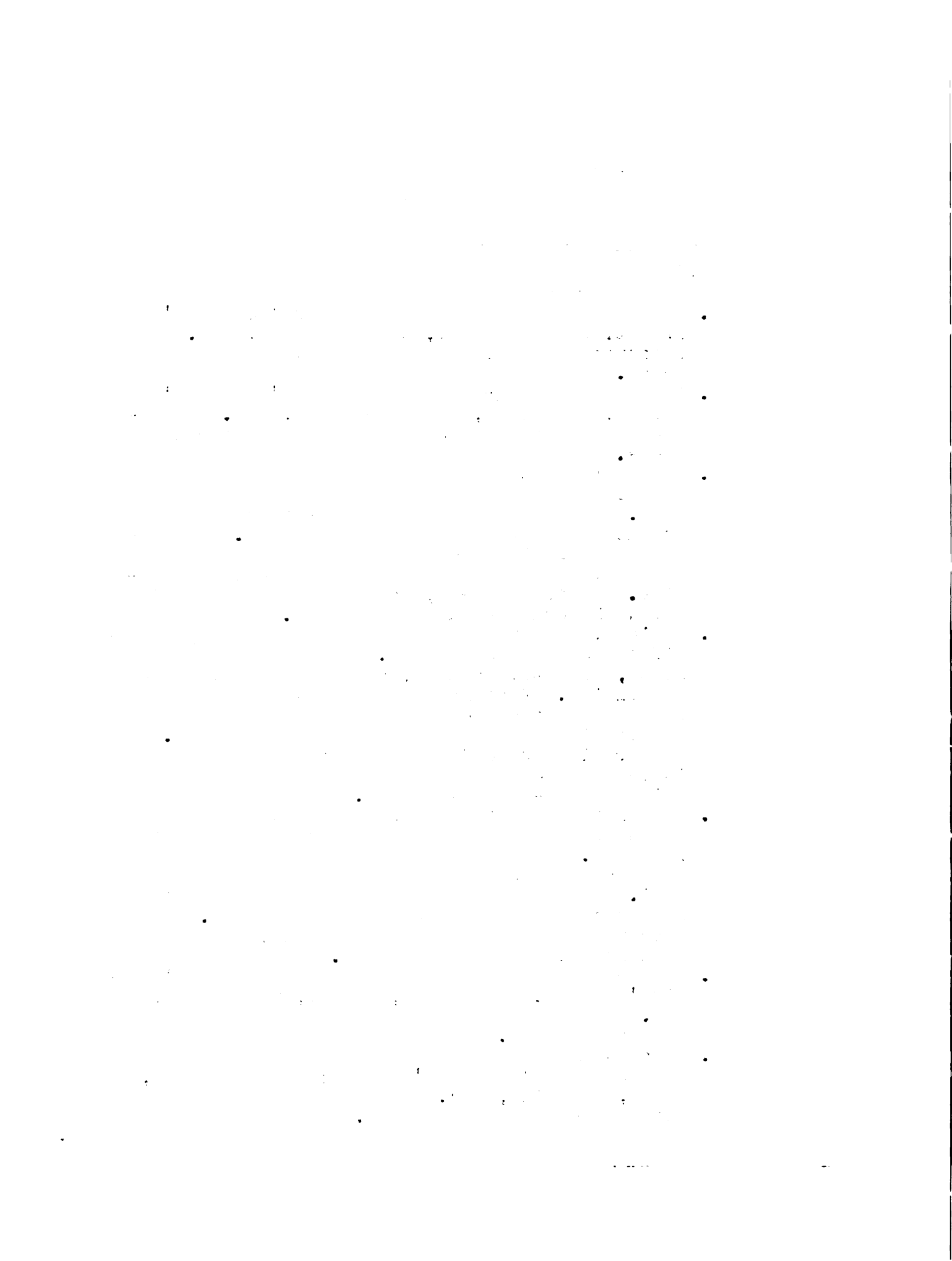
of the previous one. In this situation, the behavior sequence entails a response choice between immediate and delayed gratification of a need. The symbols have the same meaning as before except that here action tendencies differ with respect to the immediate or delayed attainment of the desired goal. An individual may attain the desired goal or he may not depending on the extent of his delay capacity. The nurturant press(e.g., mother), may or may not aid in the attainment of the goal since this depends on whether it is desired immediately or after delay. The lines of instrumental activity as before indicate how an action tendency may lead to positive or negative(as well as doubtful) attainment of the wanted goal. This will depend on the anticipatory goal states within the person, the helpfulness of the nurturant press, and the strength of the barrier or obstacle, e.g., degreeof parental approval or guilt feelings.

Given this choice situation between immediate or delayed gratification of a need or needs, an individual's responses can be dimensionalized on a quantifiable continuum of delay capacity. Table I presents a proposed model of the continuum of delay capacity of need-gratification from least to most capacity. The model of delay behavior was derived both <u>a priori</u> from the conceptual schema presented above and <u>a posteriori</u> from the empirical distribution of responses to a Story Completion Test of delay capacity(Campos, 1962).

Table I

Proposed Model of the Continuum
Of Delay Capacity

| Degree of Delay Capacity | | Behavior |
|---|---|---|
| Very Low | 1. | Immediate need gratification with 'positive' affect: without guilt, with pleasure, etc. No recourse to instrumental activity or nurturant press. |
| | 2. | Immediate need gratification with 'negative' affect: with fear, guilt, anxiety, etc. No recourse to instrumental activity or nurturant press. |
| | 3. | Action tendency in behavior sequence is towards more immediate than delayed gratification of a need. Immediate gratification attained via nurturant press or instrumental activity. Anticipatory goal state for immediate goal is positive and nurturant press for immediate goal is positive. Action tendency towards delayed goal is met with negative nurturant press. |
| | 4. | Action tendency toward immediate and delayed gratification is about equal. Anticipatory goal state, affective states, are marked by doubt or indecision. Vacillation in behavior sequence is indicative of no definite resolution of choice between immediate and delayed gratification. Nurturant press and instrumental activity may be in the service of attaining both immediate and delayed need-gratifications. |
| | 5. | Action tendency in behavior sequence is more towards delayed rather than immediate need-gratification. Recourse to instrumental activity or nurturant press results in attainment of delayed goal. Nurturant press and anticipatory goal states are positive for the delayed goal. Action tendency towards immediate goal is met with negative nurturant press. |
| | 6. | Delayed need-gratification without obvious 'positive' affect: with guilt, regret, reluctance, etc. No recourse to instrumental activity or nurturant press. |
| Very High | 7. | Delayed need-gratification without negative affect or with 'positive' affect: with pleasure, pride, no guilt, etc. No recourse to instrumental activity or nurturant press. Delay capacity associated with planfulness or future time perspective. |



This model seven point scale or continuum of delay capacity delineates different degrees of what Block(1950), it will be recalled, termed the "IG/DG ratio" of immediate over delayed gratification of needs. Murray(1938) related need-gratification to environmental determinants of behavior which he called "press". In the present study we assume that press-parental deprivation is related to delay of need-gratification.

## Review of Research

There are very few studies available which investigate the relationship between parental deprivation factors and delay of need gratification. There is a growing research literature, however, that points up the importance of parent-child contact in the development of delay capacity. On the basis of the inference that the perception of human movement(M) on projective inkblots is a function of delay capacity(cf. Singer, 1955; Dana, 1962), several investigators have related this perception to aspects of the parent-child relationship.

Testing the hypothesis that essential to the development of delay capacity is the opportunity to identify with benign and loving adult-figures in childhood, Singer(1954) and Singer & Sugarman(1955) found that adult patients who produce a high number of M responses on the Rorschach tend to describe parental figures as more benign and nurturant

on the TAT than Ss who produce a low number of M responses. On the basis of the inference that perception of human movement reflects delay capacity, these investigators conclude that such delay capacity may have its origins in early patterns of parent-child relationships.

One aspect of delay capacity is the ability to wait. Singer(1961) assumed that an important behavioral consequence of the differential development of fantasy in children might be manifested in waiting capacity. He also predicted that children who report considerable fantasy play would also report greater closeness or "identification" with their mothers and generally greater contact with their parents. The Ss were 40 school children, aged 6 to 9 years. Each S was seen in an interview and administered a questionnaire concerning parental contact. For example, Ss were asked if parents read to them, told stories, played with them, etc. Degree of parent contact was scored on a scale of 0-3 by two independent raters. The waiting task was the length of time in seconds a child would remain seated or standing quietly. The Ss were divided into high and low fantasy groups on the basis of their answers to several questions about imaginative play activity. As predicted, high fantasy Ss were able to remain waiting for significantly longer time periods than low fantasy Ss; they also reported significantly greater association between themselves and their parents than did the low fantasy Ss.

With respect to gratification of need-aggression, a study by Bandura & Walters(1959) is pertinent. They investigated aggression in adolescents by comparing two groups of 28 matched aggressive and non-aggressive boys. On the basis of data collected from parent and adolescent interview schedules, rating scales, and responses to a picture-story and story completion test, they found that Ss with poor internal controls in need-aggression had little opportunity to internalize parental standards. They found that a low control or delay of aggressive needs originates out of a disruption of the dependency relationship to parents. It was concluded that the frustration of dependency needs through lack of affectional nurturance on the part of one or both parents provides the child with continuing instigation to aggression.

An important line of research which has been to a great extent on observational and clinical case study levels of empiricism is the work done on "maternal deprivation". The reader is referred to the extensive review of the literature by Ainsworth(1962) on the findings of the effects of maternal deprivation within the context of research strategy. The two personality variables found to be most affected by the deprivation of the mother-child relationship are (a)" the ability to establish and maintain deep and meaningful interpersonal relations", and (b), "ability to control impulse in the interest of long range goals"(p. 149). Many writers

have found the latter trait to be one of the primary salient features of children separated from parent-figures and placed in foster care environments(cf. Bender, 1950; Goldfarb, 1955; Bowlby, 1957). The conclusion is primarily based on Goldfarb's(1944, 1945) findings that 15 adolescents who spent their first 3 years in an institution gave more Rorschach color responses(C, C ⁄ CF > FC) than 15 adolescents (matched on sex and age) who were in foster care, i.e., boarding homes, at that time.

Long standing conclusions of the purported effects or correlates of maternal deprivation are currently under fire(cf. reviews of Casler, 1961; O'Connor & Franks, 1961; Yarrow, 1961; Wootton, 1962). Citing one critic only, Yarrow(1961) states,

> It is apparent that the data on maternal deprivation are based on research of varying degrees of methodological rigor. Most of the data consist of descriptive clinical findings arrived at fortuitously rather than through planned research, and frequently the findings are based on retrospective analyses which have been narrowly directed toward verification of clinical hunches.(p.487)

There is some evidence that the role of the intact parent-child relationship is significant not only in the development of delay capacity and its correlates but also in the much broader related area of "temporal experience" (Wallace & Rabin, 1960). To cite a recent investigation, Chambers(1961), using Piaget's techniques, compared 26"maternally deprived" Ss(Ss who had at least 3 different foster home placements during their first 3 years of life) with

an undeprived group- matched on age and IQ- on four different time concepts: comprehension of 1) order of events, 2) duration of intervals between events, 3) conservation of speed, and 4) age. A significant difference in comprehension of these concepts in favor of the undeprived group was found. Chambers concludes that the parent-deprived child is deprived of the stability and continuity of parent-child relationships that help a child to structure time. This study suggests that perhaps some cognitive deficit may account for the assumed low delay capacity of the parent-deprived child.

## Delay of need-gratification and variables of Age, intelligence, and socio-cultural status

There has been some research on the relationship between certain demographic variables such as age, IQ, and socio-cultural or ethnic status and delay of need-gratification which is pertinent to the present study. With respect to the age variable, almost all investigators find delay capacity to increase with age(Litwin, 1957; Mischel, 1958; Mischel & Metzner, 1962). Litwin(1957), using three measures of inhibition- motor, affective, and cognitive inhibition- on Ss between 6 and 14 years of age, found that motor and affective inhibition increased with age. Cognitive inhibition, however, showed no increase with age.

As regards IQ, although the majority of researchers find IQ related to various measures of delay capacity, there is little consistency in the findings. Measures of IQ have been found to relate positively to delay capacity in the studies of Levine, Glass, & Meltzoff(1957), Spivack, Levine, & Sprigle(1959), Melikian(1959), and Mischel & Metzner(1962). On the other hand, IQ has not been found to relate to measures of delay capacity in the studies of Litwin(1957) and Siegman(1962). Singer, Wilensky, & McCraven(1956) and Levine, Spivack, & Wight(1959) find IQ related to measures of delay such as scores on Porteus mazes, motor inhibition time, and N-reversal on the Wechsler-Bellevue(in adults), but not to measures of delay such as time estimations and N-reversal on the W-B(in adolescents).

With respect to socio-cultural factors, most studies show that lower or working class Ss exhibit less delay capacity than higher or middle-class Ss(Schneider & Lysgaard, 1953; Warner, 1953; Singer, 1954; Miller & Swanson, 1960; Straus, 1962). There is also some evidence demonstrating cross-cultural differences in capacity to delay need-gratification(Singer & Opler, 1956; Mischel, 1958).

## II. Present Problem And Hypotheses

As stated earlier, the aim of this thesis is to investigate the relationship of certain significant factors

associated with the deprivation of a stable parent-child relationship in boys separated from home(currently placed in institutional care) and the capacity to delay gratification of needs. Ainsworth & Bowlby(1954) suggest that the factors in the following three periods be studied: (a) before separation, (b) during separation, and (c) after separation(which not only covers the effects of separation itself but also all subsequent effects). It is obvious that short of a complete factor analysis we can only deal with a limited number of such factors in order to keep the experimental data down to manageable proportions. Our approach is to select what are generally recognized in the literature as some significant factors associated with parental deprivation(after separation) and to predict their relationship to a specific personality function, hypothesized to be affected by deprivation, such as "delay capacity".

Of the several research strategies available, the retrospective followup study method was adopted in the present study. As defined by Ainsworth(1962),

> This strategy...requires the selection of a group of Ss all of whom are known to have had a deprivation experience in the past, defined with a fair degree of precision with respect to type and severity, and examination of their present behavior with a view to establishing the incidence of 'effects' that have been hypothesized to result from this experience(p. 119, italics mine).

The difficulties inherent in this approach are recognized by the writer. Nevertheless, we concur with Prugh & Harlow(1962) who state,

> Because of the complexity of the interaction among the multitude of variables which may vitally affect subsequent development, prediction of symptom formation even under conditions of very extreme emotional trauma would seem to possess, at the present, a low level of confidence. While in a gross way we may forsee that some event will be likely to have a marked effect upon the individual personality, the complicated forces which determine the precise nature of this effect are still best seen in retrospect(p. 24, italics mine).

Three significant factors recognized by many writers (cf. Casler, 1961; Yarrow, 1961; Prugh & Harlow, 1962; Ainsworth, 1962) are: (a) age or developmental stage at which initial deprivation of the parent-tie through separation occurs; (b) duration of this deprivation; and (c) number of subsequent changes(discontinuity) in parent or home-substitutes after initial separation from the parent(s).

With respect to the developmental stage or age at which parent-child separation initially occurs, Yarrow(1962) states that psychoanalytic theory regarding the effect of early experience on later personality development has often been interpreted as postulating that the younger the child, the more severe and fixed the "damaging" effects of the separation experience. The general consensus is that the separation experience which initially occurs before the age of 5 years is likely to be most damaging, although the findings are not sufficiently clear to pinpoint any one age as being most vulnerable(Yarrow, 1962, p. 484). Casler(1961), in his critical review of the research literature, concludes that the deprivation of 'maternal love' can have ill effects

only after specific affective responsiveness(attachment) has been achieved by the child, i.e., after about 6 months of age. Many other writers are essentially in agreement with this conclusion(Bowlby, 1958; Ainsworth, 1962; Lebovici, 1962; Prugh & Harlow, 1962; Scott, 1963). To quote Lebovici for one, "In the first 6 months of life, the mother is only a functional object, whose presence is essential, or so at least it appears, only in the case of need."(p. 86)

We will assume then, that the age period before 5 years (but after 6 months) is a critical age period, i.e., the separation experience which occurs during this early period of the child's development is expected to be significantly more 'damaging' to the capacity to delay need-gratification than separation from the parent(s) after this age. We would expect that children(boys, in our sample) placed in a substitute home(relatives, boarding home, institution) after separation from parent(s) before the age of 5 years would show less delay capacity(less impulse-control) than children separated after this age. Stated in the form of an hypothesis:

Hypothesis I

> Boys initially separated from their parent(s) and placed in a substitute home before the age of 5 years(but after 6 months) will show less delay capacity than boys initially separated from parent(s) after the age of 5 years.

An important aspect of this factor is that many Ss have experienced a cumulative series of separation experiences beginning in early childhood and continuing through

later childhood. Yet few studies give specific data on the length of time that the child has been exposed to the separation experiences(Yarrow, 1962, p. 482). In relation to the critical age hypothesis stated above, another expectation is that the longer the child has been separated from home or his parent(s) while in substitute care, the less delay capacity he will exhibit. In the form of an hypothesis,

Hypothesis II

Within a group of boys(currently in institution care) there will be a significant negative relationship between duration of separation in substitute-home care and delay capacity.

Another important factor is that such boys will vary as to how often they have been uprooted from their home or home-substitutes. Movements from one "home" to another weaken opportunities for the child to derive gratifications from stable and enduring relationships with parent-figures. As reviewed by Yarrow(1962), research with older children attest to the damaging effects of repeated separations. With respect to delay capacity, we would expect that the greater the separation movements from one home to another, the greater will be the effect on delay capacity. Stated in the form of an hypothesis:

Hypothesis III

For the group of boys(currently in institution care), there will be a significant negative relationship between number of separation movements and delay capacity.

# III. Method

## Sampling of Subjects

In procuring the sample of Ss, the State Department of Social Welfare Directory of child caring institutions and placement agencies in Michigan(1961) provided the major initial source for selecting institutions designed primarily to give group foster care to "dependent and neglected" children. Such children are residing full time in an institutional setting maintained under the supervision of a licensed public or private(sectarian or non-sectarian) social agency. They have been separated from their homes for a variety of reasons related to the absence or breakup of the parent-child relationship(parents' marital conflict, illness, death, etc.) and whose physical and mental condition are not so markedly disturbed as to require retention in an institution for the delinquent, mentally retarded, emotionally disturbed, or physically handicapped. This was done to assure as much as possible that placement from home was due primarily to separation of the child from the parent(s) accompanying family failure in line with our definition of "parental deprivation" (cf. p. 5). Since our design called for testing boys only (cf. below), institutions serving girls solely were not selected. Of a dozen or so agencies agreeing to participate, six with the largest samples were selected(two Catholic, two Protestant, and two non-sectarian).

Appendix B presents some selected characteristics of the six institutions participating in the research(location by county, religious affiliation, style, number of staff, number of children, staff-child ratio, ratio of professional to non-professional staff, number of boys and girls, number of boys within the age range of our sample, ratio of these boys who attend the institution school as against public school, and personnel turnover as reported by institution administrators for the period between September, 1962 to March, 1963). Of these characteristics, type of institution, child-adult ratio, and personnel turnover, are of particular interest since they have been assumed to be relevant factors in parent- surrogate-child relationships. Institutions may be of the cottage, congregate, or mixed style; it is assumed that cottage style agencies provide greater opportunity for individualized attention and closer interpersonal gratifications with parent-surrogates, such as housemothers, than congregate-style agencies. As for the child-adult ratio, there is greater opportunity to develop gratifying interpersonal ties with significant adults(parent-surrogates), the more personnel there are in contact with the child. It is assumed that with a higher staff-child ratio there is less deprivation of recognition and dependency needs. It's also assumed that shifting figures in a child's life is another factor which may keep a child from forming close interpersonal bonds with parent-surrogates. We might expect, therefore, that the depriving

effect is greater, the higher the personnel turnover in any given institution. The variations in these three characteristics among the six participating agencies are presented in Appendix B.

The Ss consisted of 103 boys. In order to control for any possibly contaminating effects of sex differences, age, and intelligence, the sample was chosen so as to include boys (caucasian) only, between 9 and 12 years(more accurately 8.5 to 12.5 years) of age, and of average intelligence(as tested or estimated by the agency). As an additional measure of the latter, the WISC vocabulary subtest was administered to each S and an "equivalent" verbal IQ derived as suggested by Wechsler (1951). The correlation between this estimate of IQ and full scale IQs recorded in the case records was .53 and attests to the validity of using the former as an estimate of IQ. An estimate of socio-economic status was obtained using Hollingshead's(1957) Index of Social Position(ISP) of the fathers. Table II presents the means and standard deviations for the Ss' age, equivalent verbal IQ, and ISP(an N of 84 indicates that for 19 Ss information about the father's occupation or education was not available).*

## Measurement

### Parental Deprivation Factors

The measurement of these factors is based on the data

* The accuracy of scoring WISC protocols and classifying occupations and education were checked independently by two other judges.

Table II

Means and Standard Deviation of the Institution Sample for Variables of C.A., IQ, ISP, Parental Deprivation Factors, and Delay of Gratification Measures

| Variable | N | Mean | S.D. |
|---|---|---|---|
| C. A.(chronological age) | 103 | 10.56 | 1.21 |
| (Equivalent)Verbal IQ | 103 | 103.28 | 14.44 |
| I S P(Index of Social position) | 84 | 60.93 | 11.38 |
| Parental Deprivation Factors | 103 | | |
| Total Duration of Separation | | 31.81 | 22.86 |
| Duration in foster care | | 27.86 | 21.31 |
| Duration in non-foster care | | 3.94 | 8.58 |
| Total Placement Movements | | 2.69 | 1.85 |
| Movements to foster homes | | 1.84 | 1.40 |
| Movements to non-foster homes | | .84 | 1.02 |
| Age at Initial Separation from home | | 6.77 | 2.86 |
| At separation from Father | | 5.53 | 3.17 |
| At separation from Mother | | 6.45 | 3.00 |
| Measures of Delay of Gratification | 103 | | |
| Story Completion Test-Total | | 43.23 | 10.30 |
| #1(need-acquisition) | | 9.06 | 3.00 |
| #2(need-affiliation) | | 9.86 | 2.82 |
| #3(need-aggression) | | 8.35 | 3.74 |
| #4(need-nutriance) | | 6.66 | 3.35 |
| #5(need-achievement) | | 9.30 | 3.96 |
| Impulsivity Scale | | 7.87 | 2.59 |
| Money expenditure task | | 5.81 | 2.23 |

recorded on a case schedule as modified from a longer one devised by Maas & Engler(1959). Scales which were judged to be relevant to describing the institution sample were selected for inclusion in the case schedule and placement history record used in this study(cf. appendix C:I , II). Maas & Engler (1959) studied the case records of children in foster care in order to investigate factors associated with disposition of such children. Case schedule scales were devised with proven reliability(better than 75% agreement among independent readers). A recent study by Betts, et. al.(1962), investigating factors associated with long and short term care of Ss in foster care, has also demonstrated the usefulness of this case schedule. Appendix A, tables A:I through A:IX, present some selected characteristics of the institution sample based on data recorded on the case schedule(source of referral, reason for referral, adjustment behavior reported by caseworkers at time of placement, legal status of the sample, sibling status, marital relationship of parent(s), proximity of the parent(s), frequency of parental visits, and parental attitude toward Ss as reported by caseworkers).

Included with the case schedule is aplacement pattern or history chart adapted from that used by Maas & Engler for systematically charting out a profile of the chronology of foster and non-foster care from birth to current age. Appendix C:I illustrates the placement history chart used in the present study for deriving data about the parental deprivation

factors. Illustrative cases of Ss separated before and after 5 years of age from either parent are presented in appendices C:Ia through C:Id. Accuracy of reading the placement history charts was checked by another judge. Whenever possible, accuracy of recording data about the institution sample, including the parental deprivation factors, was reviewed by institution caseworkers. In a few cases, missing information was supplied by a boy's family caseworker.

With respect to the initial separation age factor, data was recorded for both parents and each parent taken separately as well. Ss' initial separation age from the mother(M-ais) and from the father(F-ais) was recorded for separation to both foster(boarding homes, institutions) and non-foster care(relatives or friends) homes. With respect to M-ais, 37 Ss were separated before 5 years of age(more accurately, 5.5 years), and 66 Ss were separated after this age. For F-ais, 52 Ss were initially separated before 5 years of age, and 51 Ss were separated after this age.

Duration of separation was recorded by counting the number of months Ss spent in placements outside the home and totaling for foster(FC) and non-foster care(NFC) placements. Separation movements were recorded by counting the number of lines of movement separations to and from FC and NFC homes (cf. appendix C:I illustrations).

Several criteria were adopted in advance of recording these data. In recording data on the factor of initial

separation age, any period of separation or separation movement occurring before 6 months of age were not counted in the enumeration of the data on the parental factors. The data on initial separation age from either parent is based on a period of separation of at least 3 months or 12 weeks duration. Separations lasting less than 3 months were not judged to be significantly impairing to be counted in recording data on initial age of separation from parent(s)(of 7 Ss, two had earlier separations of one month's duration, five had separations of an unspecified time but were judged to be of a few weeks duration, at most).

A few Ss(3) lived with adoptive or foster parents within a couple of months after birth, and with the exception of these Ss, all Ss lived in their natural home before separation. No S in this study was in institutional placement before the age of 6 months nor were there any Ss who were separated from both parent-figures before this age. Any separation occurring before this age was from one parent only and this was usually the father(3 cases).

Table II presents the means and standard deviations of the total duration of separation in months(to FC and NFC), total number of separation movements(to FC and NFC), and age of initial separation from the mother(M-ais), father(F-ais) and both parents(Ptl-ais). M-ais was found to correlate .95 with Ptl-ais and indicates that for practically all the Ss, the age of initial separation from the mother(to FC or

NFC) is usually the age of initial separation from both parents.

## Delay of Gratification Measures

There are very few measures of delay of need-gratification in the research literature appropriate for testing preadolescents within the age range of our sample. Three measures were used in the present study: a Story Completion Test(SCT) devised by the present investigator, the Sutton-Smith-Rosenberg Impulsivity Scale(IMP)(Sutton-Smith & Rosenberg, 1959, 1961), and the Davids & Sidman(1962) measure of delay of gratification, which we call the Monetary Expenditure Task(MET).

### Story Completion Technique(SCT)

The story completion method of measuring psychological variables has proven fruitful in many areas of research. It has been used in the study of personality dynamics in young children(cf. Wursten's review(1960) of the 'Madeleine Thomas Stories' and 'Despert Fables'); in the study of adolescent aggression(Bandura & Walters, 1959); in studies of creativity in children(Anderson & Anderson, 1961); in time perspective investigations(for review of studies cf. Wallace & Rabin(1960)); and in social class differences in patterns of defense(Miller & Swanson, 1960). The story completion technique used in the present study is an attempt to operationally define the concept of "delay of need-gratification". It measures the

degree to which a subject delays gratifying a need when confronted with a choice situation in which he is free to immediately gratify or defer gratification of a given need.

Five needs assumed to serve as a representative domain of important needs in the Ss' behavior were chosen for incorporation into short story situations: need-acquisition, need-affiliation, need-aggression, need-nutriance, and need-achievement(Sanford, et. al., 1943, found that these needs were among the top ranking needs in Ss of our age sample). As defined by Hall & Lindzey(1957), paraphrased from Murray's (1938) glossary of needs, the needs are as follows(p. 173):

1. "Need-acquisition"
   To gain possessions and property. To grasp, snatch or steal things. To bargain or gamble. To work for money or goods.

2. "Need-affiliation"
   To draw near and enjoyably cooperate or reciprocate with an allied object. To please and win affection of a cathected object. To adhere and remain loyal to a friend.

3. "Need-aggression"
   To overcome opposition forcefully. To fight. To revenge an injury. To attack, injure, or kill another.

4. "Need-nutriance"*
   To have and to enjoy food and drink.

5. "Need-achievement"
   To master, manipulate or organize physical objects, human beings or ideas. To overcome obstacles and to attain a high standard. To excel oneself. To rival and surpass others. To increase self-regard by the successful exercise of talent.

Ten incomplete "story" situations were selected to comprise an initial form of the Story Completion Test or SCT.

* Since Murray(1938) does not given an explicit definition of this need, the present definition is from Sanford, et.al., 1943, p. 179.

Two stories for each need were constructed in which a boy named 'Johnny' is confronted with the choice of deferring or immediately gratifying a need. In terms of the predominant need to be gratified, as appraised by two independent judges, the stories were assumed to measure degree of capacity to delay gratification of these needs. The 10 stories were divided into 2 forms, Form A and Form B, each form incorporating an incomplete story for each of the five needs. A brief summary of the development of the SCT is given as follows(Campos, 1962):

> The SCT was initially developed on a sample of 10 boys in Institution B(chosen at random from a list of cooperating agencies) who were of at least average IQ and between 10- 11 years of age(E group). A 'cross-validation' sample(C group) of 26 boys sampled from the Holt public school 6th grade classes and matched with the E group on age, IQ, and ISP, were also administered the initial form of the SCT.
>
> On the basis of the distribution of Rs of the E group, a tentative 7 point scoring scale was derived, employing the nomenclature of the model of delay capacity. The final revision of the scoring scales for each story was based on the distribution of Rs to the incomplete stories by the C group. The model of the continuum of delay capacity was finally derived a posteriori, i.e., from the empirical data in this pilot study for use in the present research. The story endings were independently scored by two scorers.
>
> The reliability of the SCT for both the initial and revised forms was found to be quite high. Parallel form reliability between Forms A and B was .96 for the E group and .84 for the C group(final form). Interscorer reliability was also adequately high: for the E group, 72% perfect agreement(87% agreement counting discrepancies of only one point) in scoring; for the C group, 89% perfect agreement in scoring. In the E group, test-retest reliability between the initial form of the SCT(all 10 stories) and the final revised form(minor changes in wording) administered a month later was .66($p < .05$). Approximately 3 months later when the 10 Ss of the E group were

retested with form A in the present study, test-retest reliability was still quite high(rho of .56). The C group was retested on Form A five months later and the test-retest reliability was found to be .80.

The SCT was 'validated' against M-threshold on the Barron M-threshold inkblots. Briefly stated, the theory was that human movement perception(M) on the Barron measure serves as an indirect or substitute fantasy form of delay capacity because it permits a partial discharge of need-tension associated with delay of need-gratification. The M variable has been singled out as a well construct-validated measure of delay capacity in adults and some adolescents(Dana, 1962). In the E group, the correlation of M-threshold to total SCT scores was significant at the 5 to 10% level($p < .10 > .05$). In the C group, the correlation approached significance($p < .20$). It was pointed out that there was considerable attenuation in the validating criterion due to errors of measurement(imperfect reliability) so that the validity coefficients are actually underestimated. Nevertheless, for the group of Ss as a whole(N of 36), the correlation between SCT scores and M-threshold- after partialling out for the effects of age and ISP- was .38 and significant ($p < .05$).

The SCT, together with standardized instructions and scoring scales for each of the incomplete stories(Form A), may be found in appendices D:I and D:II. On the basis of the need or need-system to be delayed or immediately gratified, the five incomplete stories judged to measure delay of need-acquisition, affiliation, aggression, nutriance, and achievement, respectively, are as follows(Form A):

1. Johnny is passing by the toy store window where there are many interesting toys he can buy which he would like to have. He sees a model airplane he likes very much. But he doesn't have enough money right now to buy it.

2. Johnny is home alone and his friends invite him to come outdoors and join them. But Johnny is indoors studying to pass his tests.

3. Johnny gets into an argument with Jack, one of the neighborhood boys. He is getting angry and wonders if he ought to hit Jack.

4. Johnny is very hungry and wants to eat right away. But he has to wait until it is time for dinner. While dinner is being cooked in the kitchen, he spots a cookie on the living room table.

5. Johnny is thinking about the time when he will be promoted from school. He is trying to decide if he would rather continue his schooling or get a job and make some money so that he can buy the things he wants now.

The SCT measure assumes, of course, individual differences in delaying capacity. However, we do not know to what extent scores on the SCT are a function of differences in delaying capacity or differences in need-strength. Another important point to bear in mind is that needs are not gratified in isolation from one another. Thus, it is obvious that in the stories more than one need may be expressed. In story one, 'Johnny' is faced with the situation of how to gratify his need for a model airplane when he doesn't have the money to buy it right away; his choice of resolving the situation may be to immediately gratify his need(e.g, take or steal it) or delay gratifying it(save up his money for it). In story two, the choice is between joining friends right away(immediate need-affiliation) or staying indoors to study(delayed need-affiliation). Note here that need-achievement is also operative. In story three the choice is between hitting or not hitting a boy(immediate versus delayed need-aggression gratification). In

story four, the choice is between gratifying a need 'for a cookie' now or later(immediate vs. delayed need-nutriance gratification). In the fifth story, the choice is between continuing in school or getting a paying job right away. In this story it is obvious that both need-achievement and need-acquisition gratification are operative. It was judged to reflect a choice situation between immediate versus delayed need-achievement gratification.

Interscorer reliability of the SCT in the present study was quite high; r of .96 between two independent scorers. Table II presents the means and standard deviations obtained by the institution sample on the SCT measures. The score assigned to the Ss was the combined scores of the two independent scorers. On a 7 point scale, in which a score of one indicated"very low", and a score of seven indicated "very high" delay capacity, the maximum possible range of scores on the SCT(total) is 10 to 70 points; the actual range of scores was from 18 to 61 points with a mean of 43.2 and S.D. of 10.3.

The intercorrelation matrix for the five stories of Form A of the SCT is presented in table III. The average intercorrelation of the five SCT subtests was .21($p < .05$, two tailed test) with intercorrelations ranging from .01 (between N-Nutriance and N-acquisition subtests) to .43 (between N-nutriance and N-aggression). The intercorrelations between SCT subtests and total SCT ranged from .39

Table III

Intercorrelation Matrix of Delay of Gratification Measures

| | SCT (total) | #1 N-Acq | #2 N-Aff | #3 N-Agg | #4 N-Nut | #5 N-Ach | IMP | MET |
|---|---|---|---|---|---|---|---|---|
| SCT(Total) | | .39** | .56** | .65** | .73** | .69** | -.26** | .57** |
| #1 N-Acq | | | .04 | .05 | .01 | .16 | .18 | .19* |
| #2 N-Aff | | | | .23* | .31** | .22* | -.26** | .30** |
| #3 N-Agg | | | | | .43** | .17 | -.23* | .33** |
| #4 N-Nut | | | | | | .42** | -.36** | .45** |
| #5 N-Ach | | | | | | | -.12 | .49** |
| Impulsivity Scale(IMP) | | | | | | | | -.38** |
| Monetary Expenditure Task(MET) | | | | | | | | ---- |

* P <.05, two tailed test, 101 d.f.
**P <.01

to .73. These data suggest an underlying unitariness of the SCT need-systems.

Impulsivity Scale(IMP)

The Sutton-Smith-Rosenberg Impulsivity Scale(1959) has been found to be sufficiently reliable and valid for use with Ss of our age group. It was adapted from the MMPI Ma scale for use with 4th to 6th graders. The authors' basis for selecting and creating the items was adopted from Murray's(1938) definition of 'need-impulsion', or, as the authors state, "a tendency to respond quickly and without reflection... a rather

coarse variable including such elements as short reaction to social press, quick intuitive behavior, emotional driveness, lack of forethought and readiness to work without a carefully constructed plan."(p. 212)

The Impulsivity Scale or IMP consists of 19 items found to reliably distinguish between low and high impulsive children(as rated by teachers) and to relate to peers' perceptions of Ss' impulsivity as measured by a sociometric technique(Sutton-Smith & Rosenberg, 1959, 1961). Test-retest reliability was found to be .85. As originally constructed by the authors,it provides for yes-no type of responses and all items are keyed so that 'yes' Rs are scored for impulsivity. As suggested by investigators of response set(Couch & Keniston, 1960; Hanley, 1961), in the present study the items were "balanced" so that for approximately 50% of the items(9) 'no' Rs were scored for impulsivity. The criterion for judging the reversibility of the items was agreement by two judges. Table IV presents the originally worded item and its corresponding reversed item:

Table IV

Impulsivity Scale Items Balanced for Control Of Response Set

| Original item | Reversed item |
|---|---|
| 4. I like to wrestle and horse around. | I dislike to wrestle and horse around. |
| 9. I don't think you should always have to do what you are told. | I think you should always have to do what you are told. |

| | |
|---|---|
| 10. I like to go with lots of other kids, notjust one. | I like to go with just one kid, not with lots of other kids. |
| 12. It's hard to stick to the rules of the game when you're losing the game. | It's easy to stick to the rules of the game when you're losing the game. |
| 15. I don't think I'm as happy as other people. | I think I'm as happy as other people. |
| 18. I like throwing stones at targets. | I dislike throwing stones at targets. |
| 19. I get into tricks at halloween. | I don't get into tricks at halloween. |
| 24. I usually say the first thing that comes into my head. | I hardly ever say the first thing that comes into my head. |
| 27. Whenever there's a fire engine going someplace I like to follow it. | I don't like to follow a fire engine whenever it's going someplace. |

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To avoid the confusing effect of double negatives in Rs to the IMP items, a true-false response format was employed in place of the yes-no format. An objective scoring stencil was devised to score the protocols for impulsivity. Total score for each S were the number of items answered as keyed for impulsivity. Ten filler items comprising every fifth item of the Children's Manifest Anxiety Scale or CMAS( Castaneda, et. al., 1956)- not counting the lie or L items- were interspersed among the IMP items. In the present study, the correlation between IMP scores and the CMAS filler items was .15 and not significant. Appendix E presents the standardized instructions and items of the IMP measure.

Table II reports the mean and standard deviations of the Ss' IMP scores. Scores ranged from 3 to 15 points(out of a possible 0 to 19 points), with a mean of 7.9 and S.D. of 2.6.

Table III presents the intercorrelation between the SCT

and IMP and indicates a significant relationship between these two measures of delay capacity(r of -.26, p $<$ .01), i.e., the higher the delay capacity as measured by the SCT, the lower the impulsivity, as measured by the IMP.

Monetary Expenditure Task(MET)

Davids & Sidman(1962) devised a task in which the S is asked what he would do with a specified sum of money and when would he spend it. "This procedure", the authors assert, "provides indices of the subject's tendency to seek immediate gratification or to delay gratification in the attempt to attain more distant goals."(p.172) On this task each boy is asked, "Suppose somebody gave you ten cents, what would you do with it?". The S's R is recorded. The S is then asked, "When would you spend it?" The S's R is recorded verbatim. These instructions are repeated for one dollar and ten dollars(instead of 100 dollars used by the authors for high school age Ss). Each S's response is scored in one of 3 categories: (a) 'immediate spending'; (b) 'short term saving'; and (c) 'long term saving' on the basis of criteria of agreement between two scorers. In the present sample of 103 Ss, there was disagreement in categorizing the Ss' responses on only 6 cases or 94% agreement between two judges.

Responses of 'immediate spending' were assigned a score of one; Rs of 'short term saving' were scored two points; and Rs of 'long term saving' were scored three points. The score

for each S was based on the average of the two scorers. A total score was assigned to each S based on the combined Rs to the three different sums of money. We have called this task the Monetary Expenditure Task or MET. Table II reports the mean and standard deviation of the Ss' MET scores(5.8 and 2.2,respectively); scores ranged from 3.0 to 9.0.

Table III indicates a highly significant correlation between this measure and the SCT and IMP(.57 and -.38, respectively). The significant intercorrelation of these three measures offers some evidence of the construct validity of the concept of "delay of need-gratification".

Procedure

On the basis of advance lists of all boys meeting the age(9 to 12 years) and IQ(at least average)criteria provided by institution administrators, Ss were sampled for inclusion in the final experimental population. Non-caucasian Ss, as well as Ss not meeting the age and IQ selection criteria, were excluded from the sample. Any case records which were not considered reliable enough in yielding dataabout the placement history of the Ss were also excluded from analysis. In this way, from a total of 137 boys within the age range of 9 to 12 years, 34 cases were excluded for a final total sample size of 103 boys(cf. appendix B).

Each S was seen individually for approximately a half hour and administered form A of the SCT, the IMP, and the

MET according to standardized directions(cf. appendix D:I and appendix E). For Ss who had difficulty in reading the IMP items, the items were read to them as they indicated their Rs. The Ss were randomly assigned to different orders of administration of the three delay capacity measures in order to counterbalance possible order or serial effects. The WISC vocabulary subtest was always administered after these measures.

An attempt was made to read the case records for the case schedule and placement history data independently of the test data collection. Ideally, the most valid procedure would have been to test the Ss "blind" to the placement history data. However, because of scheduling arrangements this was not always possible so that in approximately 50% of the Ss, the placement history data were recorded prior to testing the Ss on the delay capacity measures.

## IV. Results

Before testing hypotheses, the data on the delay of need-gratification measures were pooled for all the institution subsamples. F tests of comparisons,presented in table V, gave little indication of any significant differences in delay capacity between the subsamples and attests to the validity of this procedure(Fmax tests of heterogeneity of variance were also not significant). An inspection of table V shows

Table V

F tests of Comparisons Among Institution Subsamples For Various Delay Measures

| Delay Measures | Institutions A | | B | | C | | D | | E | | F | | F | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N 20 Mean | $s^2$ | 17 Mean | $s^2$ | 16 Mean | $s^2$ | 20 Mean | $s^2$ | 19 Mean | $s^2$ | 11 Mean | $s^2$ | | |
| SCT(Total) | 44.50 | 104.65 | 43.06 | 137.12 | 41.69 | 114.92 | 45.90 | 52.85 | 40.47 | 143.52 | 43.36 | 47.47 | .66 | N.S. |
| #1 N-Acq | 9.50 | 9.24 | 9.41 | 7.56 | 9.00 | 10.76 | 9.20 | 7.18 | 8.11 | 9.67 | 9.18 | 8.47 | .45 | N.S. |
| #2 N-Aff | 10.60 | 6.55 | 9.41 | 8.24 | 9.50 | 6.25 | 9.85 | 8.01 | 9.74 | 10.96 | 10.00 | 5.62 | .42 | N.S. |
| #3 N-Agg | 8.50 | 14.67 | 7.65 | 17.72 | 7.56 | 18.66 | 9.50 | 8.82 | 7.58 | 12.25 | 9.55 | 5.90 | 1.05 | N.S. |
| #4 N-Nut | 6.60 | 11.76 | 7.00 | 14.67 | 6.13 | 11.22 | 7.90 | 9.00 | 6.11 | 8.64 | 5.73 | 8.35 | .98 | N.S. |
| #5 N-Ach | 9.30 | 21.81 | 9.59 | 14.75 | 9.50 | 20.61 | 9.45 | 11.22 | 8.95 | 13.76 | 8.92 | 9.36 | .12 | N.S. |
| Impulsivity Scale | 8.55 | 8.12 | 8.59 | 7.40 | 8.69 | 7.62 | 6.75 | 5.90 | 7.00 | 3.46 | 7.91 | 2.62 | 2.13 | N.S. |
| MFT | 4.95 | 2.76 | 5.23 | 3.13 | 5.31 | 2.59 | 5.90 | 3.10 | 4.68 | 2.31 | 4.91 | 2.62 | 1.11 | N.S. |

that there is some tendency for the subsamples to differ on IMP scores but the difference does not achieve significance. On the whole, then, the institution sample, despite varying characteristics among the subsamples, is homogeneous with respect to delay capacity.

Hypothesis I

In testing the first hypothesis, separate analyses were made for each parent. The Ss were divided into two groups: Ss separated(from either parent) before 5 years of age- more accurately 5.5 years of age- were designated as "early separated"(for M-ais, N of 37; for F-ais, N of 52); Ss initially separated from either parent after 5 years of age were designated as "late separated"(for M-ais, N of 66; for F-ais, N of 51). These two groups were compared for any significance differences in delay capacity as measured by the three measures of delay of need-gratification.

Tables VIa and VIb present the t test comparisons on delay capacity between early and late separated Ss. Table VIa reports the means and variances on the delay measures for early and late separated Ss from the mother. Ss who were initially late separated from their mothers were found to have significantly higher scores on total SCT and SCT need-acquisition and need-affiliation subtests. No other significant differences were found. Table VIb reports the t test comparisons between early and late separated Ss from the father on the delay measures and indicates no significant

Table VIa

t Test Comparisons Between Early and Late Separated Ss from Mother on the Delay Measures

| Delay Measure | N = 37 Early Separated Mean | Variance | N = 66 Late Separated Mean | Variance | t | P |
|---|---|---|---|---|---|---|
| SCT(Total) | 40.54 | 124.95 | 44.74 | 89.19 | 2.05 | <.05 |
| #1 N-Acq | 8.22 | 8.98 | 9.53 | 8.43 | 2.18 | <.05 |
| #2 N-Aff | 8.84 | 11.11 | 10.44 | 5.25 | 2.91 | <.01 |
| #3 N-Agg | 8.16 | 14.14 | 8.45 | 13.85 | .39 | N.S. |
| #4 N-Nut | 6.27 | 10.58 | 6.88 | 11.41 | .90 | N.S. |
| #5 N-Ach | 9.05 | 15.13 | 9.44 | 15.88 | .49 | N.S. |
| Impulsivity Scale(IMP) | 8.24 | 6.62 | 7.67 | 6.65 | 1.10 | N.S. |
| Monetary Expenditure Task(MET) | 5.14 | 3.09 | 5.20 | 2.73 | .17 | N.S. |

Table VIb

t Test Comparisons Between Early and Late Separated Ss from Father on the Delay Measures

| Delay Measures | N = 52 Early Separated Mean | Variance | N = 51 Late Separated Mean | Variance | t | P |
|---|---|---|---|---|---|---|
| SCT(Total) | 42.85 | 117.75 | 43.63 | 93.92 | .37 | N.S. |
| #1 N-Acq | 8.67 | 9.14 | 9.45 | 8.44 | 1.28 | N.S. |
| #2 N-Aff | 9.37 | 10.12 | 10.37 | 5.21 | 1.75 | N.S. |
| #3 N-Agg | 8.42 | 12.94 | 8.27 | 15.02 | .20 | N.S. |
| #4 N-Nut | 6.98 | 10.44 | 6.33 | 11.75 | .95 | N.S. |
| #5 N-Ach | 9.40 | 14.74 | 9.20 | 16.55 | .25 | N.S. |
| Impulsivity Scale(IMP) | 8.00 | 6.46 | 7.75 | 6.94 | .47 | N.S. |
| Monetary Expenditure Task(MET) | 5.25 | 3.11 | 5.12 | 2.73 | .37 | N.S. |

Table VII

Product-moment Correlations Between Parental Deprivation Factors and Delay of Gratification

| Delay Measures | Initial Separation Age From Father | Initial Separation Age From Mother | Number Movements | Duration of Separation |
|---|---|---|---|---|
| SCT(Total) | .10 | .21* | -.03 | -.06 |
| #1 N-Acq | .19* | .19* | -.09 | -.10 |
| #2 N-Aff | .24* | .33** | -.08 | -.19* |
| #3 N-Agg | -.03 | .03 | .06 | .06 |
| #4 N-Nut | .01 | .12 | -.04 | .05 |
| #5 N-Ach | -.04 | .03 | .02 | -.04 |
| Impulsivity Scale(IMP) | -.12 | -.19* | .18 | .11 |
| Monetary Expenditure Task(MET) | .04 | .09 | .01 | .01 |

* P < .05, two tailed test, 101 d.f.
**P < .01

differences between the two groups. Table VII, which reports the product-moment correlations between the delay measures and initial separation age from either parent, confirms the t test analyses. M-ais is significantly related to total SCT, need-acquisition, need-affiliation subtests, and IMP scores. It is interesting to note that although there is no difference in IMP scores between early and late separated Ss from the mother, there is a significant correlation between initial separation age from the mother and impulsivity as measured by the IMP( r of -.19, p < .05). With the exception of the N-acq and N-Aff subtests, little relationship between initial separation age from the father and delay measures was found. For

all measures except the N-Acq subtest -on which the relationship was the same for mother and father- the relationship between delay capacity and initial separation age is higher for the mother than for the father. Z tests of significance of the differences in correlations for the father and mother indicated that the relationship between age at separation and total SCT scores for the mother was significantly higher than the relationship for the father($p < .02$). The difference between this relationship for the father and for the mother on the IMP approached significance($p < .11$).

Hypotheses II and III

Table VII reports the correlations between delay capacity measures and the factors of duration of separation and number of separation movements. The relationship between duration of separation and delay capacity was significant for the need-affiliation SCT subtest, i.e., the less the duration of separation, the greater is the capacity to delay need-affiliation gratification($r$ of $-.19$, $p < .05$). As regards the number of separation movements, little relationship to delay measures was found. The correlation between impulsivity as measured by IMP and number of separation movements approached significance, however($r$ of $.18$, $p < .10$).

An examination of the scattergrams of the correlations between the parental deprivation factors and the delay measure scores indicated no significant curvilinearity that

Table VIII

Product-moment Correlations Between Parental Deprivation Factors, Delay Measures, and C.A., IQ, and ISP

| Experimental Variables | Correlations C.A. | ISP | IQ |
|---|---|---|---|
| Parental Deprivation Factors | | | |
| Age at initial Separation | | | |
| From Father | .16 | .18 | -.15 |
| From Mother | .11 | .26* | -.07 |
| Number of Separation Movements(Total) | .07 | .01 | .08 |
| Duration of Separation (Total) | .20* | -.25* | .03 |
| Delay of Gratification Measures | | | |
| Story Completion Test (Total) | .34** | -.03 | .21* |
| #1 N-Acq | .30** | .02 | .30** |
| #2 N-Aff | .15 | .08 | .00 |
| #3 N-Agg | .05 | .01 | -.02 |
| #4 N-Nut | .28** | .03 | .14 |
| #5 N-Ach | .27** | -.14 | .22* |
| Impulsivity Scale(IMP) | .05 | -.02 | .04 |
| Monetary Expenditure Task(MET) | .26** | .12 | .09 |

* P < .05, two tailed test
**P < .01

might mask the relationship between these variables. Variables of C.A., ISP, and IQ were found, however, to relate to several of the parental deprivation factors and delay capacity measures. VIII presents these correlations. Age was found to be significantly related to duration of separation (r of .20, p < .05), total SCT scores(r of .34, p < .01, con-

tributed mostly by the N-Acq, N-Nut, and N-Ach subtests), MET scores(r of .26, $p < .01$). The variable of ISP was found to relate significantly to initial separation age from the mother (M-ais) and duration of separation( r of .26 and -.25, $p < .05$, respectively). IQ is significantly related to total SCT scores(r of .21, $p < .05$) which is contributed mostly by the N-Acq(r of .30, $p < .01$) and N-Ach(r of .22, $p < .05$) subtests.

Since these variables of chronological age, ISP, and IQ may confound the relationships between parental deprivation factors and delay measures, they were partialled out from the correlations. Table IX reports the correlations between the parental deprivation factors and delay capacity scores with the effects of age, ISP, and IQ partialled out. An inspection of table IX shows that after partialling out the effects of these variables, the relationship of M-ais(initial separation age from the mother) to SCT and IMP scores remains essentially the same. It can be seen that IQ and ISP tend to slightly suppress the relationship between M-ais and SCT scores. With respect to the relationship between this parental deprivation factor and IMP scores, ISP tended to suppress the correlation somewhat. On the whole, however, it remains essentially unchanged. With the effect of ISP partialled out, the correlation increases from -.19 to -.21 ($p < .05$).

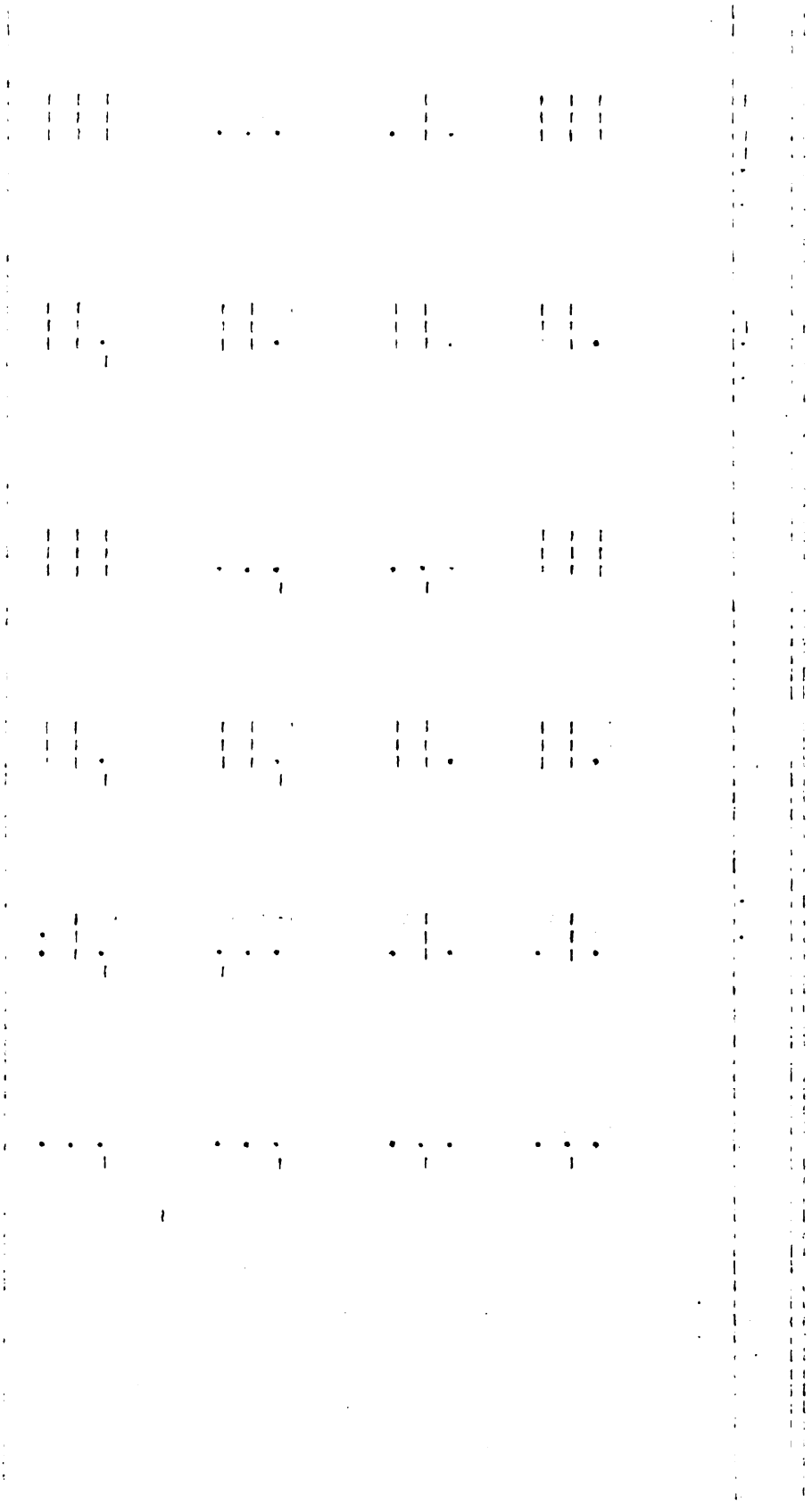
Table IX

Product Moment Correlations Between Parental Deprivation Factors and Delay Measures with significant correlations of C.A.,IQ, and ISP Partialled Out

| Correlation | r | Correlations partialled out: C.A. | IQ | ISP | C.A./IQ | C.A./IQ/ ISP@ |
|---|---|---|---|---|---|---|
| Age at Initial Separation From Father | | | | | | |
| X SCT | .10 | .05 | .13 | --- | .08 | --- |
| X IMP | -.12 | --- | --- | --- | --- | --- |
| X MET | .04 | .00 | --- | --- | --- | --- |
| From Mother | | | | | | |
| X SCT | .21* | .18* | .22* | .23* | .20* | .22* |
| X IMP | -.19* | --- | --- | -.21* | --- | --- |
| X MET | .09 | .07 | --- | .06 | --- | .06 |
| Duration of Separation | | | | | | |
| X SCT | -.06 | .01 | -.07 | -.05 | .01 | .02 |
| X IMP | .11 | .10 | --- | .12 | --- | .12 |
| X MET | .01 | -.05 | --- | .04 | --- | .04 |
| Number of Separation Movements | | | | | | |
| X SCT | -.03 | -.05 | -.05 | --- | -.05 | --- |
| X IMP | .18 | --- | --- | --- | --- | --- |
| X MET | .01 | .01 | --- | --- | --- | --- |

@ In cases where IQ has not been partialled out this column refers to correlation with CA / ISP partialled out.

*P < .05, 2 tailed test



## V. Discussion of Results

The so-called "critical age" hypothesis(I) was tested for each parent separately, i.e., initial separation age from the father(F-ais) and initial separation age from the mother(M-ais). This hypothesis was confirmed for M-ais on total SCT, N-Acq(need-acquisition), and N-Aff(need-affiliation) subtests. In addition to investigating whether the five year old level was operating as a "critical age" for differentiating Ss on delay capacity, product moment correlations were computed between initial separation age and the delay capacity measures. Confirmed was the finding of a significant relationship between M-ais and the total, N-Acq, and N-Aff SCT tests. It would seem, then, that the relationship between M-ais and these delay measures found in testing the critical age hypothesis is due as much to a low linear correlation between these measures as it is to a difference in "early" vs. "late" separation. This certainly was the case with impulsivity as measured by the IMP. M-ais was found to relate significantly to impulsivity even though there was no significant difference between "early" and "late" separated Ss on this variable. The earlier Ss are separated from their mother, the more "impulsive" they report themselves to be on the IMP measure. With respect to F-ais(initial separation age from the father), a low significant correlation was found between this factor and delay capacity

as measured by the N-Acq and N-Aff SCT subtests. It will be noted, however, that a comparison between the scores of "early" and "late" separated Ss(from the father), did not yield any critical age difference that achieved significance.

In all comparisons, across all measures of delay capacity-except the N-Acq subtest on which there was no difference- the relationship of M-ais to delay capacity was higher than the relationship of F-ais to delay capacity. On the overall SCT scores this difference achieved statistical significance and on the N-Aff subtest it approached significance. Since M-ais and F-ais are significantly related(r of .65), the question may be raised as to whether the correlation between M-ais and delay capacity is attributable to the effect of initial separation from both father and mother, i.e., due to effects of F-ais. This question can be answered by partialling out F-ais from the relationship between M-ais and total SCT, N-Acq, N-Aff subtest, and IMP scores. With the exception of the N-Acq subtest, in which partialling out initial separation age from either parent reduces the correlation to a level of non-significance, the relationship of M-ais to the other delay capacity measures on the whole remains significant(for total SCT, r is .21, $p < .05$; for N-Aff., r is .23, $p < .05$; and for IMP, r is .17, $p < .10$). It is apparent that M-ais is more critical for the development of delay capacity than F-ais.

The M-ais factor, of course, is related to the other parental deprivation factors(r of-.61). This is to be expected since all three factors are associated with the passage of time. Tests of hypotheses II and III indicated little significant relationship between the factors of duration of separation and frequency of separation movements and delay capacity. The only significant correlation was that between duration of separation and need-affiliation gratification delay capacity(r of -.19), indicating that the longer the time Ss are separated from their natural home and live in substitute homes, the less capacity they have to defer gratifying their affiliation needs. On the whole, little relationship was found of delay capacity with separation duration and separation movements. In weighting the contribution, then, of these three gross parental deprivation factors to the development of delay capacity in preadolescent boys, it is apparent that the factor of initial separation age from the mother(M-ais) is the most significant one.

The retrospective follow-up study is designed to answer the question: To what degree can we predict present test performance from the occurrence of some prior event such as M-ais? We did find that, on the whole, the relationship between M-ais and the three measures of delay capacity were in the expected direction, the relationship of this factor to SCT(including N-Acq and N-Aff) and IMP scores being sig-

nificant(with age, ISP, and IQ partialled out, they were .22, $p < .05$, and -.21, $p < .05$, respectively). In interpreting these correlations, however, it is obvious that such low correlations have little predictive power. For relationships of this magnitude, the lack of relationship or coefficient of alienation is about 98%, indicative of a predictive efficiency of only 2%(i.e., 4% of the variance is accounted for).

Certainly we cannot be uncritical concerning all the uncontrolled factors operating in this kind of research. This study cannot answer the question as to what degree many of the intervening determinant events in the Ss' development between birth and current age are operative in suppressing the relationship of the gross "parental deprivation" factors to personality functions such as "delay of need-gratification". In relating the gross parental deprivation factors to delay capacity, we assumed a constancy in quantity and quality of parental and substitute-parental care for the Ss as a whole. The validity of this assumption is, of course, open to question.

The factors of duration of separation and frequency of separation movements are associated with time spent in substitute-homes. This separation occurs in a variety of settings obviously varying in opportunities for need-gratification. Can we assume that substitute-home care(by institutions, boarding homes, relatives) provides less "mothering"

than care within the natural home? We cannot know, e.g., (a) to what degree "substitute-mothering" is adequate; and (b) to what degree "masked deprivation"(Prugh & Harlow, 1962) is operative in both the natural home and in substitute homes. Theoretically, if substitute home care is adequate and provides opportunities for identification with nurturant parent-substitutes, then we might expect the relationship between the so-called parental deprivation factors and delay capacity will be suppressed.

Appendix A, Table A:VI, shows that at the time of this study, 69% of the Ss' parents were either divorced or separated. Table A:II shows that the majority of the Ss were in their current institutional placement because one or the other parent, usually the mother, was unable to care for the child due to marital conflict between the parents. When one considers the parental attitude towards these Ss as reported by caseworkers(Table A:IX in appendix A), we find that 37% of the fathers have "withdrawn" from the Ss(usually after divorce, separation, or desertion) while 30% of the mothers are reported to be "rejecting". Regardless of whether this situation is the effect rather than the cause of separation, we must answer our original question decidedly in the negative.

## VI. Summary and Conclusions

The purpose of this study was to explore the relationship

between some significant gross parental deprivation factors and delay capacity by employing the method of a retrospective follow-up study. One hundred and three boys, of average intelligence, between 9 and 12 years of age, were sampled from 6 Michigan child-care institutions designed to care for"dependent and neglected" children who have been separated from their homes. The three parental deprivation factors investigated in this study were age at initial separation from parent(s), duration of separation in substitute homes, and number of separation movements.

On the basis of theory and a review of the research literature, three hypotheses were formulated: 1) Ss initially separated from their parent(s) before the age of 5 years ("early separated") will show less delay capacity(more impulsivity) than Ss separated after this age("late Separated"). This may be termed the "critical age" hypothesis. 2) There will be a significant negative relationship between duration of separation and delay capacity, i.e., the more time a S spends in substitute homes, the less delay capacity he will exhibit. And 3) There will be a significant negative relationship between number of separation movements from one placement(home or home-substitute) to another and delay capacity.

Three measures of delay capacity were administered to the Ss: a Story Completion Test(SCT) devised by the author, consisting of 5 incomplete stories which Ss are instructed to complete and which were judged to measure capacity to

delay need-acquisition(N-Acq), need-affiliation(N-Aff), need-aggression(N-Agg), need-nutriance(N-Nut), and need-achievement(N-Ach), respectively; the Sutton-Smith-Rosenberg(1959) Impulsivity Scale(IMP); and the Davids-Sidman(1962) monetary expenditure task(MET).

Hypothesis I was tested for each parent separately and was confirmed for initial separation age from mother(M-ais) and on delay capacity as measured by the total SCT, N-Acq, and N-Aff subtests. With respect to initial separation age from the father(F-ais), no significant differences between early and late separated Ss on the delay capacity measures were found. When product-moment correlations were calculated, it was found that the difference between "early" and "late" separated Ss(from the mother) was due as much to a low linear correlation between M-ais and delay capacity as it was to the so-called "criticality" of the 5 year age level. Low but significant correlations were found between M-ais and overall delay capacity as measured by the total SCT, N-Acq, N-Aff, and IMP measures. The relationship of initial separation age to delay capacity was found to be higher for M-ais than for F-ais across all delay capacity measures except N-Acq(on which there was no difference between M-ais and F-ais). It was concluded that age at initial separation from the mother was more critical for the development of delay capacity in preadolescence than age at separation from the father.

In testing hypothesis II, a significant relationship was found between duration of separation and capacity to delay need-affiliation gratification as measured by the SCT N-Aff subtest(r of -.19). It was concluded from this finding that the more time a S spends in substitute homes, the less capacity to delay need-affiliation gratification he will exhibit. As regards hypothesis III, on the whole, frequency of separation movements was not significantly related to delay capacity. The correlation between this factor and impulsivity as measured by the IMP scale approached significance, however($p < .10$); i.e., the greater the number of shifts from one placement to another, the higher is the tendency to be impulsive as measured by the IMP.

In examining the contribution of the three gross parental deprivation factors to the development of delay capacity, it was concluded that M-ais was the most significant factor for the prediction of a S's capacity to delay need-gratification. It was noted that the predictive power of this factor was nevertheless very low even when the effects of confounding variables are partialled out.

The issue of uncontrolled factors operative in suppressing a clear-cut relationship between "parental deprivation" factors and personality functions such as "delay capacity" was discussed and it was concluded that any assumption of the constancy of such uncontrolled factors was open to question.

## VII. Implications For Future Research

Of the three gross factors of parental deprivation, age of initial separation from the mother(M-ais) was found to be the most critical for predicting the development of delay capacity in preadolescent boys(although its predictive efficiency was quite low). The finding that M-ais is more important than F-ais(age of initial separation from the father) for predicting delay capacity is a finding that merits further research.

The low predictive relation found between M-ais and delay capacity was partially attributed to possible confounding effects of other environmental and organismic variables. With respect to the former, we pointed out earlier that institutional characteristics such as type of institution, staff-child ratio, and personnel turnover, may be significantly related to capacity to delay need-gratification within the institution sample. We saw that the Ss in the 6 institution subsamples were homogeneous in delay capacity despite varying characteristics of the institutions. Nevertheless, we examined the rank order correlation of the delay measures to institutional type, staff-child ratio, and personnel turnover(which were assumed to be associated with opportunities for parent-surrogate-child ties). No significant systematic covariation between them was found. The relationship between staff-child ratio and MET scores approached

significance, however(rho of .77), and suggests further research inquiry.

Perhaps of greater interest to the psychologist are the effects of intervening organismic variables. There is some evidence in the research literature which suggests that anxiety is an important organismic variable associated with delay capacity or impulse-control. Siegman(1962), in his study of the relationship between anxiety as measured by the TMAS(Taylor Manifest Anxiety Scale) and impulse control (as measured by time estimations and a slow tracing -motor inhibition- task) in 36 college age Ss found that high anxious Ss showed less impulse control than low anxious Ss. In the present study, it will be recalled,, the relationship between CMAS filler items and IMP scores only approached significance($p < .10$). The relationship between CMAS scores and delay capacity as measured by the total SCT and MET measures, however, was significant($p < .05$, r of -.20 and -.24, respectively). This finding confirms Siegman's results, i.e., that high anxious Ss are more impulsive or, in our terms, have less delay capacity.

In our review of theory, we discussed the viewpoint that delay capacity may be the outcome of internal controls derived from guilt anxiety associated with parental training. (cf. p. 3, Bandura & Walters, 1959; Sears, 1957). The Ss of theinstitution sample are assumed to have been deprived of stable parent-child relationships conducive to the deve-

lopment of such internal controls. If this theory is valid, we would expect that in any comparison of the present sample with a group of Ss(matched on age, IQ, and ISP) who have lived with their parents all their life, there would be a significant difference between the groups on guilt associated with impulsive need-gratification.

It will be noted that a score of one on the SCT indicates immediate need-gratification without guilt and a score of two immediate need-gratification with guilt. We might expect that the institution group will show less guilt with immediate need-gratification than a control group of Ss(used in an early pilot study(Campos, 1962)for developing the SCT). It will be recalled that need-affiliation gratification was most affected by parental deprivation. If we examine Ss' responses to the SCT N-Aff(need-affiliation) subtest and compare the "parentally-deprived" institution sample with the "non-parentally-deprived" control Ss on the proportion of one and two scores, we find, applying Fisher-Yates test of significance, a significant difference in guilt associated with impulsive expression of need-affiliation gratification. The institutional group of Ss showed less guilt in expressing immediate need-affiliation gratification than the matched group of controls($p < .05$). This finding adds further suggestive evidence for the validity that delay capacity may be the outcome of internal controls derived from guilt anxiety associated with parental training.

The foregoing analyses are some of the findings which point to significant future research. The present study is not intended to be an investigation of all the relevant factors operative in the relationship between parental deprivation and the development of the capacity to delay need-gratification. Hopefully, it is assumed, however, to be a step in the right direction. In conclusion, a quote from Prugh & Harlow(1962) is pertinent:

> Only with continued open-minded and thoughtful research...shall we be able to distinguish more clearly the significant factors involved in the relationship between early experience and subsequent development and, as a result, to delineate more fully and in greater detail the logical steps toward adequate prevention and treatment of consequent emotional disorders. (p. 25)

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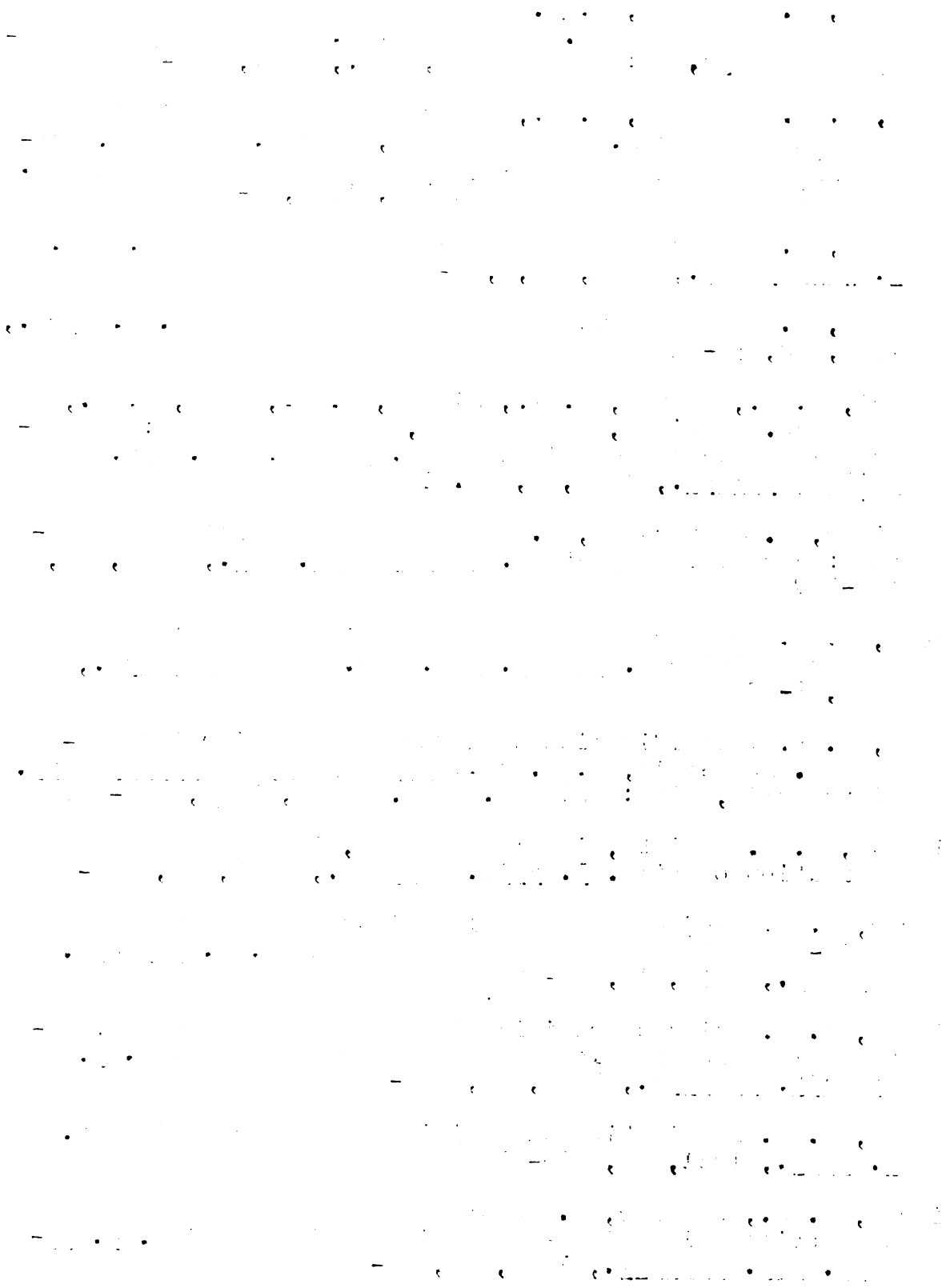

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# Appendices

## Appendix A

## Selected Characteristics of the Institution Sample

### Table A:I

### Source of Referral

| Source | N | % |
|---|---|---|
| Parents or relatives | 22 | .21 |
| Private or social agency | 19 | .18 |
| Child guidance or treatment center | 19 | .18 |
| Juvenile Court | 13 | .13 |
| School(V.T.) | 13 | .13 |
| Public welfare agency | 10 | .10 |
| Other(church, lawyer) | 7 | .07 |

### Table A:II

### Reason for Referral

| Reasons stated | N | % * |
|---|---|---|
| Parent unable to care for child | 59 | .57 |
| Marital conflict in family(resulting in divorce, separation) | 39 | .38 |
| Parental illness(physical or mental) | 30 | .29 |
| Parent unable to handle or supervise child(because of his behavior) | 24 | .23 |
| Boarding home adjustment failure | 20 | .19 |
| Desertion by parent(s) | 17 | .17 |
| Abuse or neglect by parents | 18 | .17 |
| Death of parent(s) | 16 | .16 |
| Other | 9 | .09 |

* Total does not sum to 100% because more than one reason is given for most of the cases.

Table A:III

Adjustment Behavior Reported by Caseworker
At Time of Current Placement

| Adjustment behavior reported | | N | % * |
|---|---|---|---|
| Social maladjustment | | 58 | .56 |
| | Aggressiveness 42 | | |
| | Other 16 | | |
| Developmental difficulties | | 36 | .35 |
| | Immaturity 29 | | |
| | Other 7 | | |
| School learning difficulties | | 36 | .35 |
| Symptom-free adjustment | | 17 | .17 |
| "Psychiatric" disturbance(neurosis, character disorder) | | 12 | .12 |
| Pre-delinquency(stealing) | | 6 | .06 |

* Does not sum to 100% because more than one category is mentioned in many cases.

Table A:IV

Legal Status of Sample

| Status | N | % |
|---|---|---|
| Full custody remains with parent or guardian | 64 | .62 |
| Rights modified- temporary(ward of the court) | 27 | .26 |
| Rights modified- permanent(ward of the court) | 13 | .12 |

Table A:V

Sibling Status of Sample

| Sibling status | N | % |
|---|---|---|
| One or more sibs -all in foster care | 38 | .37 |
| Sibs divided between home and foster care | 29 | .28 |
| One or more sibs -all at home | 18 | .17 |
| No sibs | 14 | .14 |
| Other(sib in institution, AF, etc.) | 4 | .04 |

Table A:VI

Marital Relationship of Parents

| Marital Relationship | | N | % |
|---|---|---|---|
| Divorced(includes annulments) | | 34 | .33 |
| Father remarried | 5 | | |
| Mother remarried | 8 | | |
| Separated(includes desertions) | | 33 | .32 |
| Married- living together | | 15 | .14 |
| One widowed, one deceased | | 13 | .13 |
| Father remarried | 0 | | |
| Mother remarried | 1 | | |
| Unwed | | 5 | .05 |
| Not applicable -both parents dead | | 3 | .03 |

Table A:VII

Proximity of Parent(s) to Children

| Location | Father* N | Father* % | Mother * N | Mother * % |
|---|---|---|---|---|
| Same or adjacent county -no problems(in transp., cost,etc) | 14 | .14 | 10 | .10 |
| Same or adjacent county -some problems | 27 | .26 | 58 | .56 |
| Same or adjacent state | 15 | .14 | 7 | .07 |
| In distant region -manages to visit | 1 | .01 | 1 | .01 |
| In distant region -no visiting (pt in instit., prison, etc.) | 23 | .22 | 13 | .13 |
| Not applicable - parents dead | 12 | .12 | 11 | .10 |
| whereabouts unknown | 11 | .11 | 3 | .03 |

* "Parent" refers to biological parent or parent that has been accepted as the "natural" parent by the child.

Table A:VIII

Frequency of Parental Visits*

| Frequency of visits | Father N | Father % | Mother N | Mother % |
|---|---|---|---|---|
| Less often than permitted | 38 | .37 | 33 | .32 |
| As often as permitted | 18 | .17 | 31 | .30 |
| Never visited although permitted to do so | 9 | .09 | 11 | .11 |
| No visits permitted | 6 | .06 | 9 | .09 |
| Not applicable(parent dead or released child-through divorce | 32 | .31 | 19 | .18 |

* No reliable record of visiting frequency by friends and relatives was available.

Table A:IX

Parental Attitude toward Children
( As reported by Caseworkers)

| Parental Attitude | Father | | Mother | |
|---|---|---|---|---|
| | N | % | N | % |
| Affectional | 11 | .10 | 11 | .10 |
| Ambivalent | 29 | .28 | 26 | .25 |
| Withdrawn(after divorce, sepn, or desertion) | 38 | .37 | 17 | .17 |
| Rejecting or abusive | 8 | .08 | 31 | .30 |
| Indifferent | 3 | .03 | 4 | .04 |
| No significant experience with child | 3 | .03 | 0 | .00 |
| Not applicable -parent dead, in prison, etc. | 11 | .11 | 14 | .14 |

Appendix B

Selected Characteristics of Institutions Participating in the Research

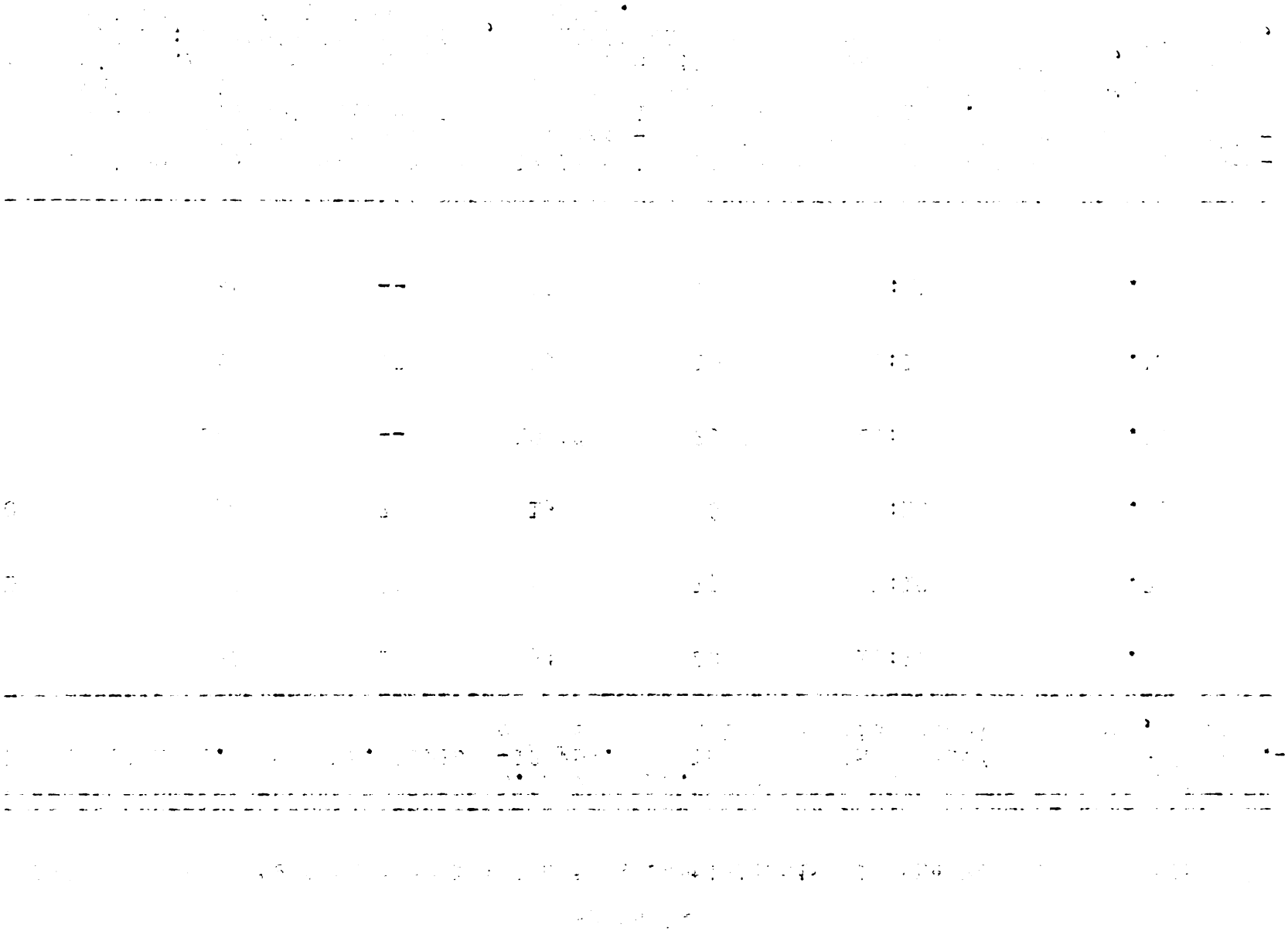
| Institutions | Location County | Affiliation | Style | Total No. Staff | Ratio of Prof/Non-Prof.Staff | Total No. of children | Staff-Child Ratio |
|---|---|---|---|---|---|---|---|
| A | Wayne | Protestant | Cottage (12 each) | 46 | 15:31 | 72 | 46:72 |
| B | Wayne | Protestant | Cottage (8 each) | 54 | 26:28 | 57 | 54:57 |
| C | Oakland | Catholic | congregate Cottage (15 each) | 130 | 15:115 | 165 | 130:165 |
| D | Wayne | Catholic | Congregate | 60 | 26:34 | 225 | 60:225 |
| E | Lapeer | Non-Sectarian | congregate Cottage (35-50 each) | 41 | 5:36 | 81 | 41:81 |
| F | Kalamazoo | Non-Sectarian | Congregate | 7 | 3:4 | 35 | 7:35 |

## Appendix B

### Selected Characteristics of Institutions Participating in the Research (Continued)

| Institution | No. Boys | No. Girls | No. Boys 9-12 yrs. of Age | No. Boys* In Sample | Ratio of Ss in Agency/ Public School | Personnel Turnover ( Sept.- March, 1963 ) |
|---|---|---|---|---|---|---|
| A | 50 | 22 | 34 | 20 | 10:10 | .00 |
| B | 32 | 25 | 18 | 17 | 7:10 | .02 |
| C | 94 | 71 | 19 | 16 | 0:16 | .06 |
| D | 225 | -- | 100** | 20** | 20:0 | .00 |
| E | 54 | 27 | 29 | 19 | 0:19 | .12 |
| F | 35 | -- | 13 | 11 | 0:11 | .14 |

* The discrepancy between the totals in this column and the preceding one is accounted for by attrition of cases due to (a)non-caucasion races (b) below 90 IQ and (c)inadequate case materials(usually because S is a recent admission).
**In this institution subsample Ss meeting the IQ and age selection criteria were essentially randomly drawn from the files until 20 Ss were tested(of 24 Ss, 4 were below 90 IQ; restriction of time,and limitation of number of Ss by the administrator, determined the final size of the sample).



## Appendix C: I

### Guide to the Placement History Chart Profile

**Column**

**A.** Presents the years within which the Ss' age range falls. Ss in this study range in age from 8.5 to 12.5 years.

B. This column gives the dates of placements, movements, etc. It always begins with the birthdate of the S.

1. C.A. or 'chronological age' of the S.
2. OH or 'own home'.
3. Rel. or 'relatives' home'
4. Ad. or 'adoptive home'.
5. Other, or the home of friends or neighbors,

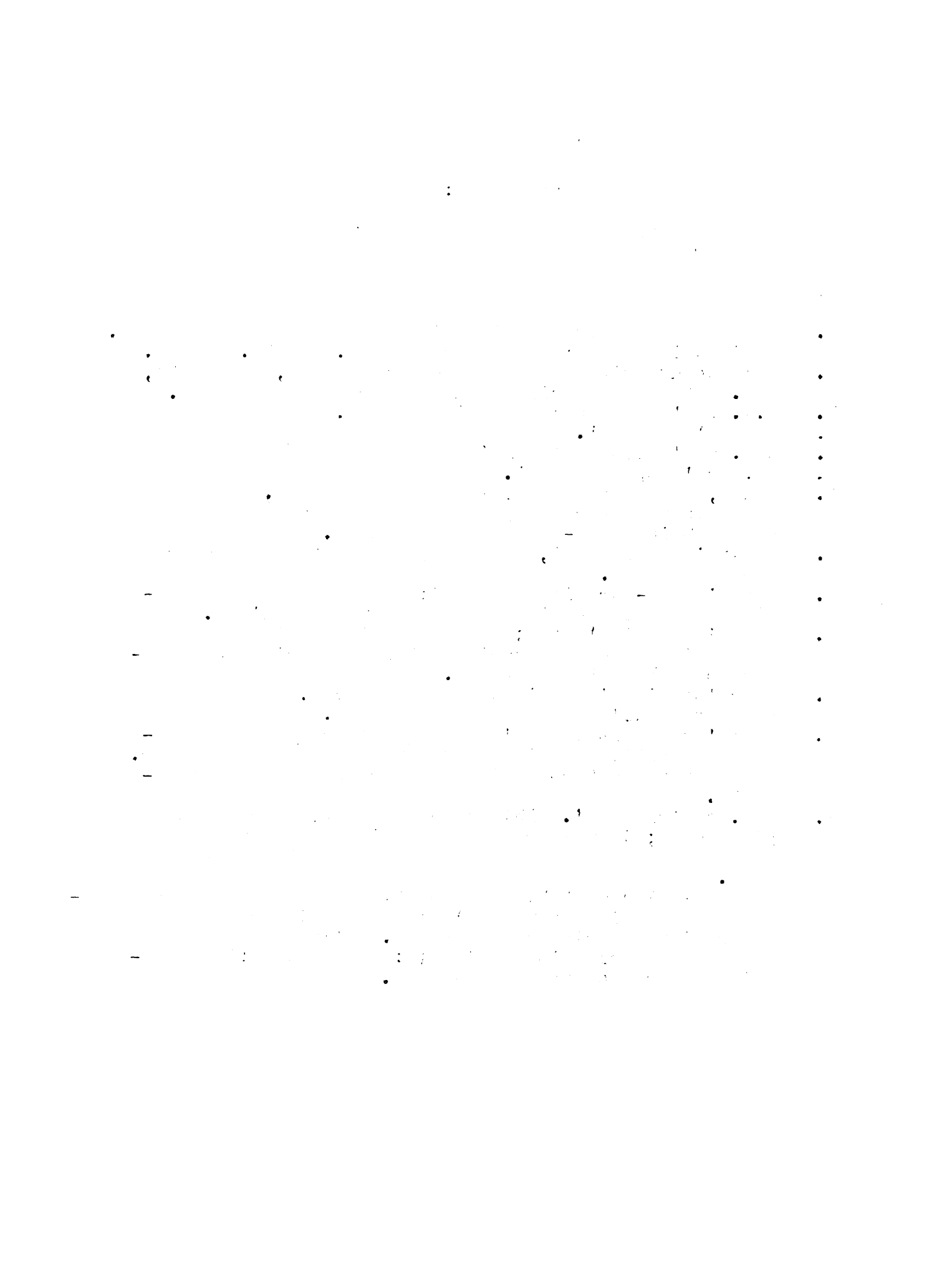
Columns 2 through 5 contain the placement history of the S in a non-foster(Non FC) home.

6. FH or 'faster home', generally refers to a boarding home placement.
7. C or 'child-care institution'; these agencies are designed to care for 'dependent and neglected' Ss.
8. D or 'detention' home; these agencies or institutions are designed to temporarily detain a S prior to transfer to another type setting.
9. H or 'hospital' for inpatient treatment. Placements here are usually for physical reasons.
10. T or 'treatment center' designed for residential psychotherapeutic inpatient care such as Hawthorn Center.

Columns 6 through 10 refer to foster care placements.

11. Unk. or 'unknown'. This column reserved for any unknown placements; in the present study it was not used since only case records with adequate case history data were used.

The Placement history chart(PHC) delineates the chronological profile of the Ss' placement history from one separation experience to another. Illustrative cases or case histories in profile (C:Ia through C:Id) exemplify the use of the PHC summary.



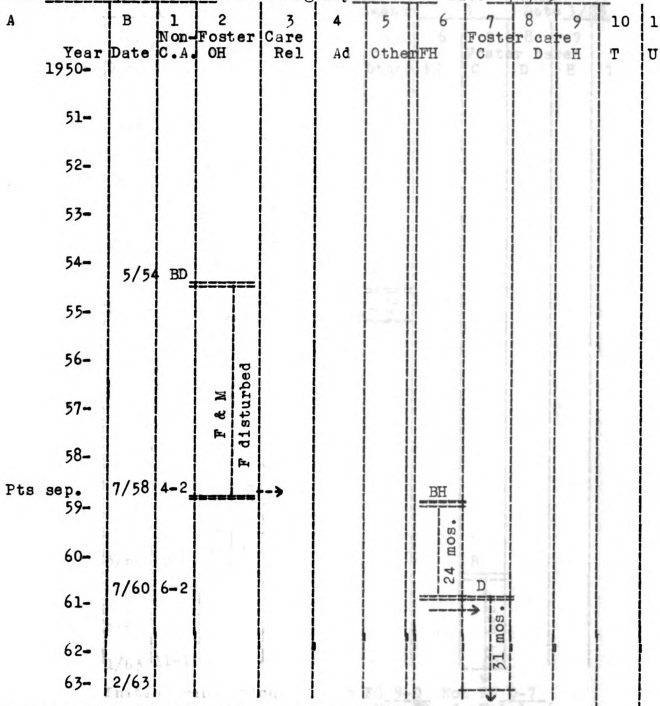
C:Ia

PLACEMENT HISTORY CHART

( Adapted from Maas & Engler, 1959 )

"Early" separation from Parents

Name___ No. 3 _____ Current Agency __ D __ Date 2/8/63




Summary:* Initial separation age to- FC 4-2 Non FC --

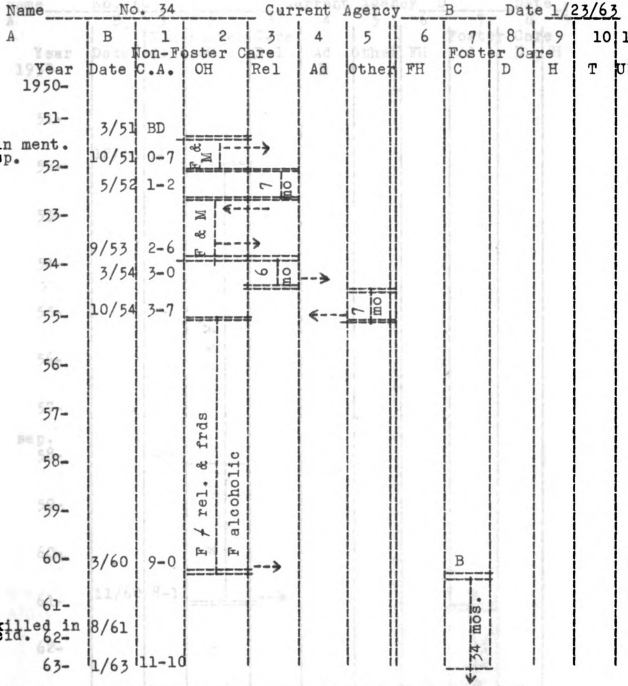
No. sepn movts- to FC 2 Non FC -- Total 2

Duration of sepn: FC 24 Non FC -- Total 55

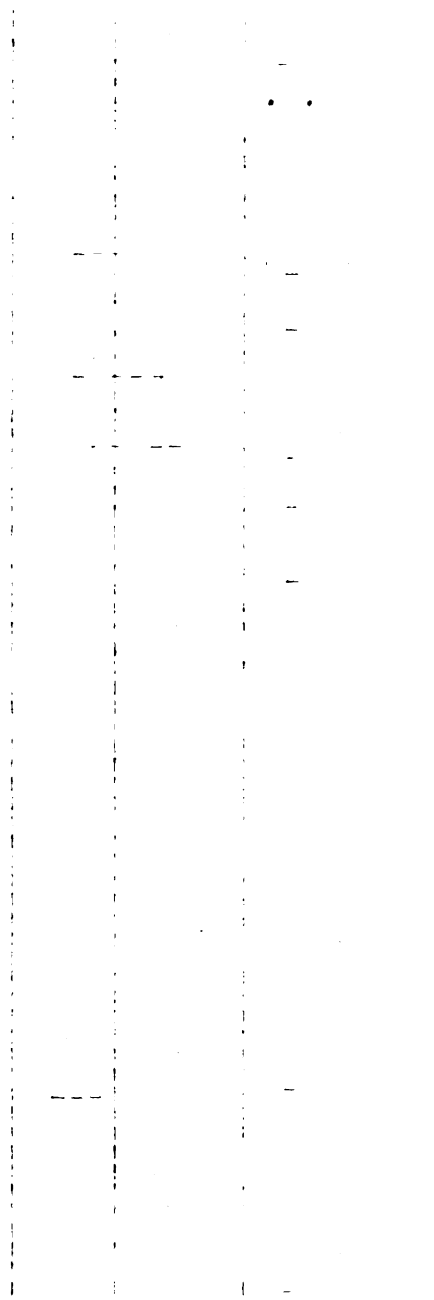
Current Agency FC 31

* This summary category refers to age at separation from both parents. Information on each parent was also recorded separately.

C:Ib
PLACEMENT HISTORY CHART
(Adapted from Maas & Engler, 1959)
"Early" separation from Parents




Summary: Initial separation age- to FC 9-0 Non FC 0-7
No. sepn movts- to FC 1 Non FC 5 Total 6
Duration of sepn: FC 0 Non FC 20 Total 54
Current Agency FC 34



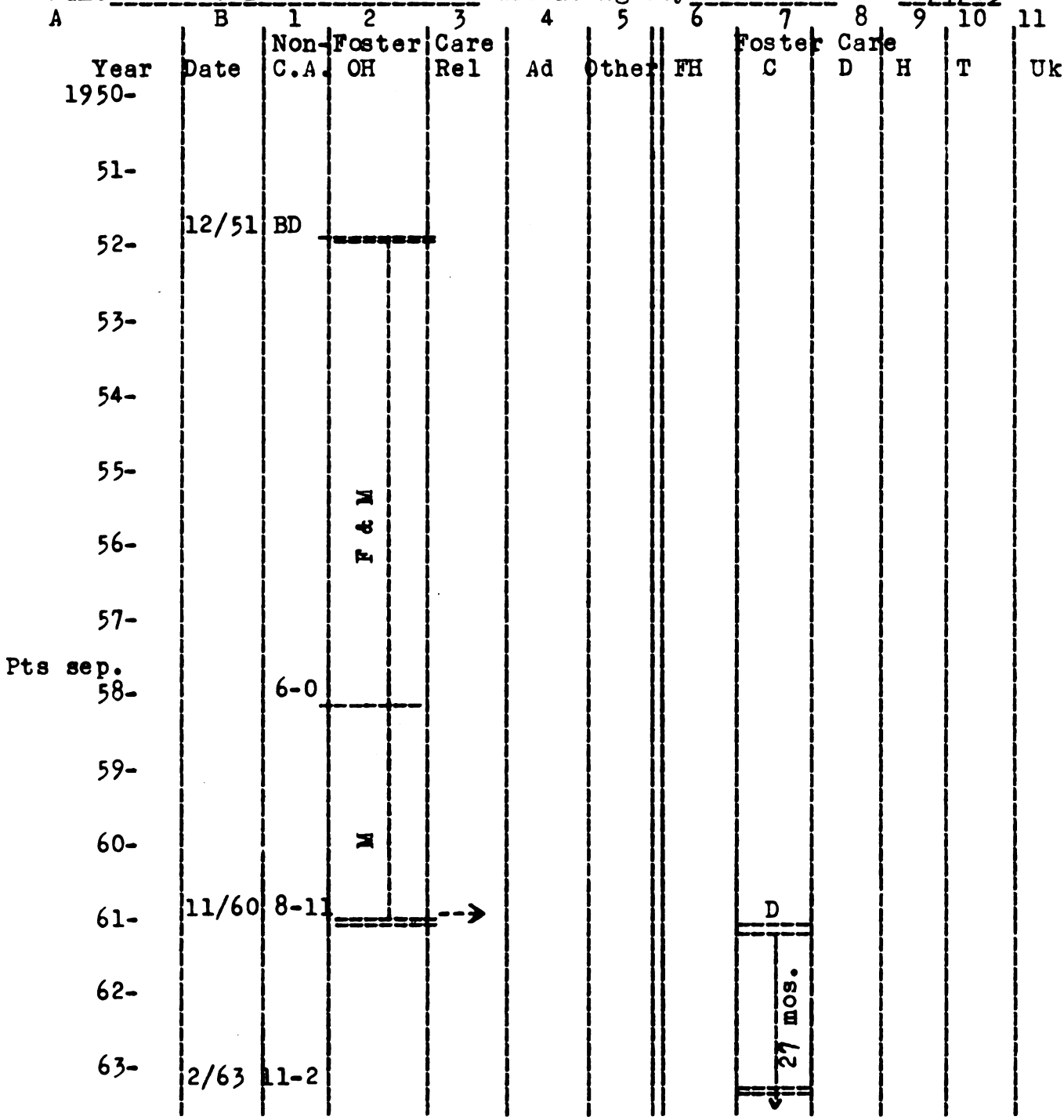
C:Ic

# PLACEMENT HISTORY CHART

(Adapted from Maas & Engler, 1959 )

"Late" separation from parents

Name____No. 10_____Current Agency_D_____Date_2/7/63




Summary: Initial separation age- to FC 8-11 NonFC --

No. sepn movts to: FC 1 Non FC -- Total 1

Duration of sepn: FC 0 Non FC -- Total 27

Current Agency FC 27

C:Id

# PLACEMENT HISTORY CHART

( Adapted from Maas & Engler, 1959 )

"Late" separation from Parents

Name No. 28 Current Agency B Date 1/23/63

| A | B | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Non- | Foster Care | | | | | Foster Care | | | | |
| Year | Date | C.A. | OH | Rel | Ad | Other | FH | C | D | H | T | Uk |
| 1950- | | | | | | | | | | | | |
| 51- | | | | | | | | | | | | |
| 52- | | | | | | | | | | | | |
| 53- | 9/52 | BD | ═══ | | | | | | | | | |
| 54- | | | | | | | | | | | | |
| 55- | | | | | | | | | | | | |
| 56- | | | | | | | | | | | | |
| 57- | | | | | | | | | | | | |
| 58- | | | | | | | | | | | | |
| 59- | | | | | | | | | | | | |
| 60- | | | | | | | | | | | | |
| Pts sep. 61- | 9/60 | 8-0 | ---- | | | | | | | | | |
| Pts div. | 3/61 | | | | | | | | | | | |
| 62- | | | F | ---→ | | | | | | | | |
| 63- | 11/62 | 10-2 | ═══ | | | | | B | | | | |
| | 1/63 | 10-4 | | | | | | ↓ | | | | |

M & F

M promiscuous-alcoholic

Summary: Initial separation age: to FC 10-2 Non FC --

No. sepn movts: to FC 1 Non FC --- Total 1

Duration of sepn: FC 0 Non FC --- Total 2

Current Agency FC 2

Appendix C:II

CASE SCHEDULE
( Adapted from Maas & Engler, 1959 )

Name _____ Sex_____ Agency _____

D.O.A._____Testing date_____B.D._____ Age____

Source of referral_____Reason for referral____

_____

A. Child scales

1. Ethnicity
 0 unknown(evidence conflicting)
 1 white
 2 negro
 3 latin american(specify)_____
 4 oriental_____
 5 American Indian
 6 mixed
 7 other_____

2. Religion(as parent designates or agency recognizes)
 0 unknown
 1 protestant_____
 2 Roman Catholic
 3 Jewish
 4 Greek Orthodox
 5 "no religion"(no affiliation)
 6 no preference
 7 other_____

3. Intelligence(most recent test or estimate)
 0 unknown
 1 above average(over 110) tested_____
 2 average(90-110) tested_____
 3 average or above- prof. estimate
 4 below average(70-89) tested_____
 5 below average- estimated
 6 subnormal(below 70) tested_____
 7 subnormal - estimated

Source of test:
_____

4. Health(physical, recent)
 0 unknown
 1 above average(excellent)
 2 adequate(average, usual childhood diseases)_____
 3 inadequate(chronic series of minor ills)_____
 4 poor(serious illness- but under control)_____
 5 extremely poor health(marked impair. of normal activities)

5. Adjustment(principal symptomatic behavior)
 0 unknown
 1 relatively symptom-free adjustment
 2 developmental difficulties(eating, eliminative, sexual)__
 3 school learning difficulties_____
 4 social maladjustment(aggression, manipulation, pilfering)
 5 delinquency
 6 psychiatric disturbance(specify)_____

6. Legal status of child at time of placement
 0 unknown
 1 full custody remains with parent or guardian(specify)___
 2 rights modified- temporary(ward of the court)
 3 rights modified- permanent(ward of the court)
 4 not applicable, parents deceased

7. Membership in family group(indicate if for minor or half
 0 unknown sibs_____
 1 no sibs
 2 one or more sibs, all living in foster care_____
 3 one or more sibs, all living with parent(s) or rel._____
 4 Sibs divided between parents or relatives and foster care

B. Parent Scales

8. marital relationship
 0 unknown
 1 married and living together
 2 divorced- include annulments(indicate if either remarried__)
 3 separated -include desertions
 4 unwed(specify if living together or not)_____
 5 one widowed, other deceased(indicate if either remarried__)
 6 other( e.g., in institution, AF, etc.)_____
 7 not applicable, both deceased

9. occupation of parent- Father(cf. occup. scale)
 0 unknown Spec. for M__
 1 prof., technical, kindred workers(cf. scale for exceptions)
 2 as in group 1, including exceptions(cf. scale)
 3 proprietors of small businesses, etc.
 4 clerical, sales, and kindred workers
 5 skilled craftsmen, foreman, and kindred workers
 6 operatives and kindred workers
 7 private household workers, domestics, service workers
 8 unskilled laborers
 9 relief recipients
 X "housewife"

10. Education of parent- Father
  0 unknown  Specify for M_____
  1 to 4th grade____
  2 to 7th grade ____
  3 to 8th grade
  4 completed 9th grade
  5 some HS, did not complete 12th grade ____
  6 completed 12th grade
  7 to 2 years of college___
  8 to 4 years of college___
  9 graduate work_____

11. Parents proximity to child- Father
  0 unknown  Specify for M_____
  1 within same or adjacent county- no problems
  2 same as 1 -with problems in transp., exp., time, etc.
  3 within same or adjacent state(but not same county)___
  4 in distant region -but manages to visit____
  5 in distant region -no visiting(specify)____
  6 not applicable, parent dead

12. Frequency of parental visits - Father
  0 unknown  Specify for M___
  1 less often than permitted_____
  2 as often as permitted_____
  3 more often than permitted_____
  4 never visited although permitted to do so
  5 not applicable, no visits permitted
  6 not applicable, parent dead or released child_____

13. Current parental attitude -Father
  0 unknown  Specify for M_____
  1 none formed(no significant experience with child)
  2 neutral(indifferent)
  3 affectional(wishes child to return)
  4 ambivalent(alternates between 3 and 5)
  5 withdrawn, hostile,or rejecting(specify)_____
  6 other
  7 not applicable, e.g., parents dead_____

C. Separation Data(cf. Placement History Chart)

14. Initiation of current separation
  0 unknown  Spec. for first sepn___
  1 voluntary- parent initiated separation
  2 as in 1, but court involved
  3 involuntary -interested party initiated sepn_____
  4 enforced separation(death or institutionalization of parents)
  5 other_____

15. Precipitating condition for current sepn

0 unknown — Spec. for 1st Spen_____
1 death of both parents
2 death of one parent(surviving pt can't care for child)
3 illness of one or both(mental or physical, specify___)
4 economic need -e.g., despite ADC, M has to work
5 marital conflict (child placed after divorce, sepn, etc)
6 abandonment or desertion by parent(s)____
7 neglectful or abusive parent(s)_____
8 out of wedlock motherhood
9 separation due primarily to child's condition(deviant behavior, etc.)
X other: pt can't handle child____pts behavior_____

Appendix D: I

STORY COMPLETION TEST

(Children's Form)

Form A

What does Johnny do and how does Johnny feel?

Name_____ B.D._____Age_____Agency_____

Instructions:

We are going to play a story-telling game. I am from the University and I make up stories about boys your age. You are going to help me complete somestories that aren't finished. I have 10 stories with me. Each story is about a boy your age named Johnny. I'll read each story aloud and you follow it with me. Then you finish the story starting from where I left off. I want you to tell me what Johnny does and how he feels about what he did. This isn't a school test because there are no right or wrong answers. You can say anything you want and say it any way you want to. No one will see the stories except me. Do you understand what we are to do? Here is the first one..

1. Johnny is passing by the toy store window where there are many interesting toys he can buy which he would like to have. He sees a model airplane he likes very much. But he doesn't have enough money right now to buy it.

2. Johnny is home alone and his friends invite him to come outdoors and join them. But Johnny is indoors studying to pass his tests.

3. Johnny gets into an argument with Jack, one of the neighborhood boys. He is getting angry and wonders if he ought to hit Jack.

4. Johnny is very hungry and wants to eat right away. But he has to wait until it is time for dinner. While dinner is being cooked in the kitchen he spots a cookie on the living room table.

---

5. Johnny is thinking about the time when he will be promoted from school. He wonders if he ought to continue his schooling or get a job and make some money so that he can buy the things he wants now.

Appendix D: II

Story Completion Test Stories and Scoring Scales (Children's Form)
Form A

1.(need-acquisition)

Johnny is passing by the toy store window where there are many interesting toys he can buy which he would like to have. He sees a model airplane he likes very much. But he doesn't have enough money right now to but it.

Score

1. J takes, steals plane. High immediate need-acquisition gratification is shown. It is without expression of guilt, anxiety, etc. Indeed it may be with obvious positive affect, e.g., with pleasure.
2. J expresses high immediate need-acquisition gratification but it is with negative affect-guilt, anxiety, fear of punishment, etc. J takes or steals the plane feeling guilty, e.g., without pleasure.
3. Action tendency is still more immediate than delayed in gratification of need-acquisition. Immediate gratification may be via nurturant press(parent, peer, or other person) or instrumental activity, e.g. asking parent for the money or buying one of the other toys instead. J. may obtain the plane immediately even though he 'charges it' to pay later.
4. Action tendency is towards immediate and delayed gratification to equal degree. J may be indecisive and vacillating over whether to gratify need-acquisition immediately or after delay. Nurturant press and instrumental activity are in the service of both immediate and delayed gratification with no definite resolution of the choice between them:e.g."J will save for it or steal it";"steal it or ask for $ from parent", and other "either-or" types ofresponses.
5. Action tendency is more towards delayed than immediate need acquisition gratification. Recourse to nurturant press results in his having to wait, i.e., obtaining the plane only after delay. Score here when J waits passively for the delayed goal, e.g., until he gets allowance from his parent(s) showing less delay ability than the child in score 6 below.
6. J will save or earn the $ without recourse to nurturant press but it is not with positive affect or awareness of significance of planfulness. Delayed need-acquisition is high but it is with feelings of regret, reluctance, etc.
7. Delayed need-acquisition is very high and with obvious positive affect and planfulness(future time perspective). J saves or earns the money with pride and without signs of regret, reluctance, etc.

2.(need-affiliation)
Johnny is home alone and his friends invitehim to come outside and join them. But Johnny is indoors studying to pass his tests.

Score

1. Very high immediate need-affiliation gratification is shown. J goes out and joins his friends without display of guilt or other negative affect, i.e., J may "feel good" about it.
2. High need-affiliation gratification is shown but it is with negative affect; i.e., J goes out to join friends but it is with guilt feeling, fear of disapproval, etc.
3. Immediate gratification action tendency is stronger than delayed gratification tendency to affiliate with the friends. J may resort to nurturant press or instrumental activity to obtain immediate gratification. Thus, J will hurry through his studies and go out; or he may turn to his parents to get permission to go out right away.
4. J expresses indecisiveness or alternates between immediate and delayed gratification indicating action tendency towards immediate and delayed gratification is about equal. Nurturant press and instrumental activity are in the service of attaining both immediate and delayed gratification. Thus, e.g., J may vacillate between studying and going out with no definitive resolution of the choice being made.
5. Action tendency is more delayed, i.e., to study, than it is immediate, i.e., go out with friends and indicayes that delayed gratification of need-affiliation is stronger than immediate gratification. Thus, e.g., J will go out "only if he has enough time"- there is no recognition of time perspective as is the case below, however, Recourse to nurturant press or instrumental activity results in J having to study and not go out with his friends.
6. High delay of need-affiliation gratification without recourse to nurturant press is shown but is not with obvious positive affect; i.e., J chooses to stay in but it is with regret, reluctance and without future time perspective. Score here, however, the realistic situation in which J shows future time pe spective and then joins his friends; e.g. "he studies hard to make sure he will get an A on his tests".
7. Very high delay of need-affiliation gratification is shown. J stays in and studies with positive affect and awareness of future goals(future time pe rspective). J may moralize but it is not with negative affect.

3.(need-aggression)

Johnny gets into an argument with Jack, one of the neighborhood boys. He is getting angry and wonders if he ought to hit Jack.

Score

1. Need-aggression gratification is very immediate. J hits Jack and with no guilt or other negative affect expressed. Indeed he may do it with pleasure or with other expressions of positive affect.
2. Need-aggression gratification is still immediate but J hits Jack with guilt or fear, etc. expressed. J may hit Jack upon provocation and in this case will be the first one to throw the punch; J may rationalize it as in 'self-defense'.
3. Action tendency is still more towards hitting Jack than not hitting him. Need-aggression gratification is more immediate than delayed. E.g. J may turn to nurturant press (other, parent, or peer) to resolve dispute with the decision to hit Jack. J may hit him if he thinks he can take him or he hits him and then makes up for it, etc.
4. As usual, the action tendency may be stymied by doubt or indecisiveness. As stated in the story beginning, there is the conflict between hitting or not hitting Jack. This is expressed in 'either-or' or 'only if...then' types of responses indicating no definite resolution of choice between immediate and delayed need gratification. Nurturant press and instrumental activity are in the service of both action tendencies to an equal degree.
5. Action tendency is more towards not hitting rather than hitting jack, indicating greater delayed over immediate need gratification. J may hit Jack only after being forced to beyond a point of tolerance but it is clear(in contrast to 3 above) that the tendency to not hit Jack is stronger. J, as usual, may turn to nurturant press or instrumental activity to justify not hitting Jack: i.e., mother says don't do it or J doesn't hit him out of friendship. Sometimes J may displace his anger to another object or substitute activity.
6. Need-aggression gratification is delayed without recourse to nurturant press but again it is without obvious positive affect or with negative affect: J doesn't hit Jack because of fear, anxiety, etc. Or J will remain angry and walk away from the scene stewing.
7. J doesn't hit Jack and avoids the argument indicating that delay of need-aggression gratification is very high. As usual, there may be some moralizing(J may even forgive Jack) and an awareness of the consequences of one's actions without negative affect and with future time perspective.

4.(need-nutriance)

Johnny is very hungry and wants to eat right away. But he has to wait until it is time for dinner. While dinner is being cooked in the kitchen he spots a cookie on the living room table.

Score

1. Immediate need-nutriance gratification is very high. J takes the cookie. There is no expression of guilt and indeed he may take it with pleasure.
2. Immediate need-nutriance gratification is high but it is with negative affect, i.e., guilt, fear of being found out, etc. Score here if J ignores or disobeys a negative nurturant press; e.g., J takes the cookie even after his mother forbade him to do so.
3. Immediate need for the cookie gratification is still predominant over delayed gratification. J will engage in instrumental activity or turn to nurturant press to obtain immediate gratification. E.g., J takes the cookie first, then asks his mother if he can have it; recourse to a parent(s) will result in her (his) approving J having the cookie right away, and so on.
4. Action tendency is expressed in such a way as to indicate that the choice between immediate and delayed gratification is unresolved, i.e., about equal in degree. J may wonder what to do and express action tendency in 'either-or' or 'only if-then' types of responses;e.g. "If he could, he'll eat it, if he couldn't, he doesn't". Nurturant press and instrumental activity are in the service of both immediate and delayed gratification.
5. Delayed need-gratification is stronger than immediate need gratification. Recourse to instrumental activity and nurturant press results in delayed gratification; e.g., mother or some other authority figure disapproves of his having the cookie. J waits only because he has to, e.g., because he might get caught or he may wait to get it after dinner. J may engage in a substitute activity until dinner time.
6. Delay of need-nutriance gratification is high and without recourse to nurturant press but it is without obvious positive affect. Thus, J waits but with negative affect, e.g., 'he feels bad about it', or with obvious reluctance or regret.
7. High delay of need-nutriance gratification is accompanied by positive affect and awareness of future time perspective. J waits without negative affect although it may be accompanied by some moralizing.

5.(need-achievement)
Johnny is thinking about the time when he will be promoted from school. He wonders if he ought to continue his schooling or get a job and make some money so that he can buy the things he wants now.

Score

1. Immediate need-acquisition gratification is high. J takes the job and without guilt or other negative affect. Indeed, it may be with pleasure or other positive affect such as pride. Delayed need-achievement gratification is very low.
2. Immediate need-acquisition gratification as in one above is high, indicative of little delay ability required for high need-achievement gratification. J takes the job but it is with negative affect. The S may say that J should continue schooling but there is no mention of J actually doing so.
3. Immediate need-acquisition gratification still predominates over delayed need-achievement gratification. Getting the job is primary. J may have recourse to nurturant press and instrumental activity to obtain immediate gratification: thus, J will try and get the approval of a parent to get the job.
4. The decision between immediate need-acquisition and delayed need-achievement is again expressed in terms of its indecisiveness indicative of unresolved action tendency of equal strength in the direction of immediate and delayed gratification. The choice is unresolved and often stated as a 'hard one to make'; "J continues schooling and takes the job". Nurturant press and instrumental activity are in the service of both immediate and delayed gratification.
5. Action tendency is more towards delay than immediate gratification. Schooling is primary even if J continues his schooling for awhile and then takes a job temporarily. Or J will go to school and work part time while doing so. Score here any stereotypy of response in which the choice to continue schooling is without any real awareness of its significance: thus, J may continue schooling and then join the Navy. As usual recourse to nurturant press results in his having to study or continue schooling.
6. Delayed need-achievement gratification is high but it is without obvious positive affect, i.e., with guilt, regret, reluctance, etc. Thus J continues his schooling grudgingly without awareness of future time perspective.
7. Delayed need-achievement gratification is very high and without stereotypy of response. J stays in school, a decision accompanied by some moralizing, positive affect, and future time perspective.

Appendix E

Impulsivity Scale

Name_____Agency_____Date_____

Instructions:

These are some sentences which tell about how you feel and what you like to do. Read each one carefully. Put a circle around the word TRUE if you think it is true about you. Put a circle around the word FALSE if you think it is not true about you. There are no right or wrong answers because this is not a test. For example, here is the sentence, 'I like apple pie'. You see there is no right or wrong answer to that- some boys like apple pie; some boys do not. If it were true about you, you would answer TRUE; if it is not, you would answer FALSE. Do you understand what we are to do? Please tell me if you don't understand a sentence or do not know any of the words. Here is the first one___

True False 1. I like to keep moving around.

* True False 2. I notice my heart beats very fast sometimes.

True False 3. I like to just "blow off" steam.

True False 4. I dislike to wrestle and to horse around.

* True False 5. I am secretly afraid of a lot of things.

True False 6. I must admit I'm a pretty good talker.

True False 7. I can hardly stop from throwing snowballs at people I see walking by.

* True False 8. I get nervous when things do not go the right way for me.

True False 9. I think you should always have to do what you are told.

True False 10. I like to go with just one kid, not with lots of other kids.

* True False 11. I get angry easily.

True False 12. It's easy to stick to the rules of the game if you're losing the game

True False 13. I play hooky sometimes.



* Asterisked items are filler items

*True False 14. I worry about what other people think of me.

True False 15. I think I am as happy as other people.

True False 16. I like to dare kids to do things.

*True False 17. I worry about what is going to happen.

True False 18. I dislike throwing stones at targets.

True False 19. I don't get into tricks at halloween.

*True False 20. My feelings get hurt easily when I am scolded.

True False 21. I'll try anything.

True False 22. I am restless.

*True False 23. It is hard for me to keep my mind on my school work.

True False 24. I hardly ever say the first thing that comes into my head.

True False 25. I often act right away without stopping to think.

*True False 26. I get headaches.

True False 27. I don't like to follow a fire engine whenever it is going someplace.

True False 28. I like to shoot with bow and arrows.

*True False 29. I have bad dreams.