A STUDY OF A PRIMARY PREVENTIVE INTERVENTION
WITH YOUNG CHILDREN

by

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ABSTRACT

Primary prevention in health care services has effected important economies through prevention of handicap in children and through the reduction of financial and time costs for expensive, often life-time care.

An important recent development in education has been the application of the concept to the innovation of preventive practices. These emphasize the promotion of competencies and strengths in children, particularly during critical periods in development, rather than the treatment of emotional, behavioral and learning deficits.

This research investigated the immediate effects of a preventive programme, a modification of the Bessell and Palomares Methods in Human Development (MHDP), upon the learning of competencies and coping skills associated with cognitive and ego development in kindergarten and first grade children. The literature suggested a critical period at this point in ego development.

Using a sample of 103 metropolitan kindergarten and first grade children, the effects of the Bessell and Palomares programme were compared to the effects of another discussion group method, Show-and-Tell.

A fully-crossed fixed-effects three-factor design was used to test eight hypotheses; treatment main effects, sex and grade-level effects and all possible interactions. The dependent variables selected as representative of cognitive and ego development were: cognitive performance competency
as measured by (1) minutes spent in mature problem-solving behavior on the Keister Puzzle Box and (2) school achievement (for first grade pupils only); social competency as measured by scores received on measures of (1) teacher perception of dysfunctional behavior, (2) peer perception of observed socially positive or neutral behavior, and (3) peer affiliation; affective competency as measured by scores received on measures of (1) the child's predominant emotional response to life and (2) the child's feelings of independent security (for first grade pupils only).

Results pertaining to hypotheses were:

1. A significant multivariate \( F \) revealed differences between the two treatments. These differences were accounted for by changes in two of the social competency measures, the teacher behavior rating and the peer perception measure. For both measures the students taught under the modified Methods in Human Development programme (MHDP) gained significantly more than those taught under Show-and-Tell (SAT).

2. A significant interaction was found between treatment and grade-level, with followup univariate analyses showing a significant \( F \) for the measure of teacher perception of dysfunction. For kindergarten students taught under MHDP there was a greater reduction than for students taught under SAT. There was no statistical difference for first grade pupils.

3. Informal results were also presented which gave additional support to the effectiveness of the MHDP programme,
particularly at the kindergarten level.

4. All other null hypotheses were accepted.

A discussion of results included the following points:

1. In spite of the relatively brief treatment period (18 weeks), the substantive impact of the treatment upon overt social functioning was noteworthy. Such positive functioning had been identified in the literature as predictive of adult competence.

2. While the peer affiliation measure was not significant, some informal results suggested a modest increase in social effectiveness for the Bessell and Palomares participants.

3. Possible weaknesses in instrumentation and the programme omissions necessitated by time restrictions may have contributed to the lack of clear results, particularly for first grade students.

4. Informal results from the standardized problem-solving situation seemed promising in providing valuable information on the behavioral or temperamental and cognitive styles of children. It was conjectured that such observational data would be helpful in educational planning for young children.

Suggestions were made for further research particularly with the full grade one programme and on the use of the problem-solving device.
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I wish to express my deep appreciation for the guidance and encouragement I received throughout the study from the advisory committee: Dr. M.B. Nevison, chairperson, Dr. D. Bain, Dr. O. Oldridge, and Dr. T. Rogers, all of the Faculty of Education, and Dr. H. Nichol of the Faculty of Medicine. Dr. W. Davis was a contributing member as well until his departure from the University. The very generous assistance received from each member made the study possible.

Particular thanks are due to Ms. C. Swanson, the former principal of the school used for the project.
CHAPTER I

INTRODUCTION

"An ounce of prevention is worth a pound of cure."

The purpose of this investigation was to examine the effectiveness of a primary preventive educational programme upon the development of key competencies and coping skills related to affective, cognitive and social development in kindergarten and first grade children. In the educational sense primary prevention includes any intervention which promotes mental health by developing interpersonal, affective, cognitive and/or psychomotor competencies in children. A corollary of this notion is that the presence of such competencies should reduce the incidence of emotional, learning and behavioral disorders.

Development of the Problem

The ancient folk wisdom associated with an ounce of prevention was reflected in the recommendations of Koch and Koch (1976) who advocated preventive health care modelled on existing knowledge and technology, care which would not only save lives but also halve the rate of mental retardation in children. They noted that one such intervention, the complete immunization of all young children in the United States against certain common childhood diseases, would produce
savings approaching one billion dollars annually.

The concern for prevention in the area of health care was also reflected in primary preventive action taken by France and Finland (Wynn and Wynn, 1974a,b). Both countries have free extensive health care services for pregnant mothers and children which are aimed at reducing perinatal mortality and morbidity. In France, for example, recognition of the growing cost of childhood handicap, which was estimated to consume about 2.5% of the gross national product, prompted a series of legislative interventions beginning in 1970 which were designed to save lives and reduce the extent and cost of handicap. Each of these health care interventions acknowledged that primary prevention is not only more humane, but also more economic.

Recently, education has begun to examine the possibilities of adapting such preventive modes to its needs - in this instance to prevent the development of emotional, behavioral and learning problems in children by promoting competencies through learning. These strategies reflect a major shift in emphasis: first from the diagnosis and treatment of disability, then to the prevention of disability, and finally to the development of competence in individuals. The development of such competence or functional effectiveness is important not only for creating satisfying lives but also for economic reasons. People who do not have sufficient emotional and behavioral resources too often use drugs or
alcohol as a crutch. The medical costs of alcohol abuse to Canada at the present time are estimated to be two billion dollars annually (House of Commons Debates, Nov. 24, 1976, p. 1330).

Thus, education in its services to all children must investigate preventive and growth-inducing strategies and the critical developmental period or age where such interventions are most likely to be optimally effective. The preventive programme selected for the current study was the Bessell and Palomares Methods in Human Development (1969, a, b, 1973). The programme is addressed to areas related to cognitive and ego development; emotional self-understanding, cognitive mastery, interpersonal effectiveness.

**Rationale for the Present Study**

The basic purpose of the present research was to judge the level of effectiveness of the Bessell and Palomares programme (HDP) upon certain performance areas and to provide evaluative information not presently available on it. The programme was selected because it was much in use at the local level. Informal teacher reportings indicated that it was a helpful teaching device and was enjoyed by the children. Some teachers observed also that students' self-images appeared to improve, that children seemed to find it beneficial not only to discuss their feelings but also to understand and improve their own social impact.
In summarizing independent studies of the programme, Henrie (1972) reported positive findings from studies of Head Start projects which incorporated the Bessell and Palomares programme as one component. However, interpretation of these results was confounded since it was unclear if resultant behavior changes in children could be attributed solely to the use of HDP or to the combination of treatments used which included HDP.

Furthermore, no previous research had considered the specific effects of the Bessell and Palomares programme upon the development of social, affective and cognitive competencies in young children - each of which is related to positive cognitive and ego development. Given the paucity of evidence, research was required to determine the programme's impact upon the building of cognitive and ego strengths through increasing the children's mastery of certain coping behaviors.

Importance of the Study

Should the effects of the Bessell and Palomares programme be positive, a planned intervention at the kindergarten and primary level would be indicated in order to prevent negative self-attitudes and non-coping behaviors as well as to encourage positive self-development through acquisition of coping skills in the affective, social and cognitive performance domains.

There was no attempt to suggest the efficacy of a
single solution approach to an early psychoeducational intervention. It was recognized that the problem was complex, with other factors such as genetic, cultural, childrearing, and parenting practices affecting cognitive and ego development. For the purposes of this study, however, this single aspect was examined, i.e. - the effects of this programme upon the building of competencies related to cognitive and ego development.

**Assumptions of the Study**

Several assumptions were made:

1. That the Bessell and Palomares curriculum was suitable for use with kindergarten and first grade students (see Appendices A and B).

2. That it could be administered in such a way as to avoid researcher bias (see p. 64).

3. That between the ages of 5 and 7 years, a critical period exists for the appearance of competencies pertaining to ego development.

4. That between the ages of 5 and 8 years, a critical period exists in the formation of attitudes and abilities (other than general intelligence) which are positive for school learning: interest in learning, attention and sense of competence (see p. 31).

5. That competencies in each of the dimensions discussed in (3) and (4) are correlates of mental health and positive self-development.
The Research Question

The broad research question was: Is the Bessell and Palomares programme a primary preventive intervention? Specifically: Would the use of the Bessell and Palomares programme with kindergarten and first grade pupils produce immediately-measurable increments in performance competencies associated with positive cognitive, social and affective functioning?

For the purposes of this study, three dimensions of competence related to cognitive and ego development were measured:

1. **Cognitive competence** referred to academic functioning as measured by:
   
   (a) persistence in problem-solving behavior, as measured by time in minutes spent in mature problem-solving behavior (an adaptation of the Keister Puzzle Box) for both kindergarten and first grade students; and
   
   (b) the Grade Point Average (GPA) for first grade students (note discussion in Chapter 4 which details the knowledge and skills tested to determine GPA).

2. **Social competence** referred to the child's capacity to make and maintain social connections; to display attributes which are antecedents to being liked by others; to be able to give friendship to others. Because it is not a unitary trait, three assessments were made for both kindergarten and first grade students:
(a) teacher perception of dysfunctional classroom behavior as measured by the teacher on the Behavior Rating of Pupils, and

(b) peer perception of observed classroom behavior as measured by selection frequency on The Class Pictures, and

(c) peer nomination for entry into interpersonal relationships as measured by a three-item sociometric device.

3. Affective competence, a central part of the self-concept, referred to the child's feelings about self and perception of life in general. Both aspects were evaluated:

(a) the quality of the child's predominant emotional response to life as measured by A Picture Game for both kindergarten and first grade students, and

(b) the child's feelings of independent security and his acceptance of responsibility as measured by the Institute of Child Study Security Test, The Story of Tommy, for first grade students only.

Summary

The application of primary prevention to health care services has effected both significant improvement in the quality of life by preventing handicap and important economies in financial and time costs of life-time care.

An important recent development in education has been the application of the concept to the innovation of preventive educational practices. These emphasize the promotion of
strengths and competencies in children rather than the treatment of emotional, behavioral and learning deficits.

This study sought to determine the effects of a preventive programme, the Bessell and Palomares Methods in Human Development, upon the learning of competencies and coping skills associated with cognitive and ego development in kindergarten and first grade children.
CHAPTER II

REVIEW OF LITERATURE

This chapter examines the relevant literature pertaining to the educational promotion of competence in young children as a form of primary prevention. The study sought to evaluate the effectiveness of the Methods in Human Development programme in promoting competencies in areas related to cognitive and ego development.

The chapter's introduction covers the Canadian indices of dysfunction as well as the traditional treatment approaches to emotional, behavioral and learning problems in children.

Primary prevention as an educational alternative to treatment is discussed next. Its definition and characteristics, possible approaches to its operationalization, the nature and nurture of competence, and the relationship between adult functioning and the presence of the developmental-adaptational traits in childhood are included in this section.

A detailed examination of the developmental-adaptational traits follows which incorporates (1) the structure of ego development and (2) the parallel maturation of cognition and affectivity. This discussion permits rationalization of the features of appropriate types of interventions with respect to prevention of emotional, behavioral and learning problems in children.

The timing of preventive interventions and the appli-
cation of the developmental-adaptational traits to this study are presented next.

The chapter concludes with an overview of school-based preventive approaches and finally, with an examination of the unique features of the Bessell and Palomares programme, the object of this research.

Introduction

**Canadian Indices of Dysfunction**

Several Canadian reports have attempted to identify numbers of children afflicted by emotional, behavioral and learning disorders and to propose effective modes of treatment for the school child suffering from these problems. For example, Laycock and Findlay (1969) made recommendations for securing an appropriate education for children with emotional and behavioral disorders in British Columbia. Another Canadian study, the Celdic Report (1970), revealed that 12% of Canadian youth or one million children required professional help for remediation of emotional, behavioral and learning problems.

Other Canadian indices of dysfunction in child and adult alike are suggested by additional figures. The Dominion Bureau of Statistics (1971) predicted hospitalization for mental illness for one in every six persons at some point in a lifetime. The Psycho-Social Price Index (Nevison, 1969) indicated rapidly rising rates of inflation in both numbers and costs of psychological and social problems in Canada.
in suicide rates particularly among the young, in convictions for juvenile delinquency, in numbers of adult criminal offences, in alcoholism and drug addiction and family breakdown. The overall increase in dysfunction is sometimes a contentious issue; nevertheless, it appears that the rates are on the rise. For example, in this past year the Honorable Marc Lalonde noted that the national Department of Health and Welfare had just revised its estimate of the medical costs for alcohol abuse from a little over one billion dollars a year to two billion - an increase approaching 100% (House of Commons Debates, Nov. 24, 1976, p. 1330). It is imperative that intervention strategies be developed. Childhood seems to be the most receptive age.

The etiology of the problems themselves is complex (Ryan, 1972; Smith and Neisworth, 1975; Wynn and Wynn, 1974 a, b). These include genetic determinants, the effects of birth trauma, nutritional factors, accidental factors, situational factors, the presence of a bio-psycho-social developmental crisis, with any or all of these being involved in the symptomatology.

Traditional Approaches to the Problems

Translation of the identified problems into services for children have typically involved diagnosis of the behavioral pathology, the emotional disturbance, or the deviance from normal learning patterns. Diagnosis has then been followed by treatment through the use of therapy, specially trained
adjunct teachers, or segregation of the child into special classes or into other special therapeutic environments.

The assumptions underlying these remedial approaches are twofold: that the current state of knowledge permits successful diagnosis; that a treatment intervention, if provided at a point of lesser morbidity, will reduce or prevent individual suffering in later life and at less social cost. Neither of these assumptions appears to be entirely supported by the literature particularly with reference to emotional or mental problems as shown by Kohlberg, LaCrosse, and Ricks (1972).

Perhaps a greater obstacle has been that the publicly-supported treatments have been scarce, costly, and slow in developing. To paraphrase Rene Dubois (1959), we have fixated on solving problems of disease rather than on creating health. Given these conditions, a need exists for alternative approaches to treatment in dealing with the emotional, behavioral and learning problems of children.

By altering the basic operational assumption from one viewing treatment of diagnosed disturbance as particularly effective in childhood to one assuming that disturbance is most effectively prevented in childhood, other approaches to the problems may be found.

Primary Prevention as an Educational Alternative

Primary Prevention Defined

Primary prevention of emotional, learning, and behavior
disorders in children has been advocated by Bower (1965), Lambert (1965), Caplan (1961 a) and others. Bower (1965) has proposed an operational definition for primary prevention. "It is any specific biological, social or psychological intervention which promotes or enhances mental or emotional (health) or reduces the incidence ... of learning and behavior disorders in the population at large" (p. 1). He proceeded to make explicit a value assumption within this definition: "those social, psychological and biological factors which tend to enhance the full development of the human characteristics of man (specifically, the ability to love and the ability to work productively) have illness-preventive potential and are ... desirable (while) factors which tend to limit or block such development have illness producing potential and are ... undesirable" (p. 4).

A synopsis of the literature on primary prevention suggests that the prophylactic model of intervention may be characterized as proactive, educative, developmental and preventive; the medical model, as reactive, remedial, adjustive and therapeutic. Given one additional feature of the preventive model, that of applicability to a population (in this instance, a school system), rather than to an individual, the advantages of prevention over treatment become apparent. As a mode of intervention in the schools, primary prevention is, again, not only more humane, but also more economic.

Several of the attributes of the primary preventive model will lead to discussion on means of operationalization
as well as on timing and type of intervention indicated. Each of these issues will be discussed separately although there will be points at which all three will intersect.

**Primary Prevention Operationalized**

As noted earlier, Bower (1965) has proposed that those factors which enhance the full development of man's human characteristics (that is, the ability to love and to work productively) have preventive potential. How can such full development be promoted?

A review of the literature suggests some possibilities. Developmental counselling (Blocher, 1966) appears to be congruent with the notion of primary prevention. Blocher described developmental counselling as having developmental-educative-preventive goals. The major goal is the maximization of human effectiveness. From a practical viewpoint, effective behavior is that which gives the individual the greatest control over his environment and over his affective responses to that environment.

In characterizing the relationship between developmental counselling and the optimization of human effectiveness, a three-dimensional model was delineated: roles and relationships; coping behaviors; developmental tasks. Facilitation of human effectiveness in Blocher's terms "consists largely of insuring that each individual has an opportunity to master the (developmental) tasks that will equip him with the coping behaviors necessary for handling those roles and relationships that are involved in his next stage of development" (p. 7-8). The developmental counsellor, with expertise in each of these
dimensions, can assist the classroom teacher in creating those ideal environmental transactions for the child which will insure mastery of the appropriate developmental tasks. Such an environment will reduce or eliminate behaviors which lead to task failure and social rejection.

At this point it is appropriate to apply Blocher's rationale to the child's experience of school entry. The child is developmentally in transition between the close of the early childhood and the beginning of the later childhood stages (Erikson, 1950). During this bio-psycho-social transition the child is completing the central developmental task of a sense of autonomy which requires the mastery of appropriate cooperative, control and substitution behaviors. He is also about to begin the acquisition of the developmental tasks of initiative and industry. The relevant coping skills associated with these tasks are mastery and value-relevant and work-relevant behaviors. In short, the essential coping skills to be acquired during the kindergarten and first grade period are related to cognitive and ego development.

An appropriate intervention at this critical bio-psycho-social transition point could offer important gains for the child; mastery of these particular tasks would ensure optimal cognitive and ego development for this period. Such competencies would prevent serious discontinuities in development.

The literature offers another possible solution to implementing primary preventive interventions, that of environmental
Manipulation. That solution is not unrelated to developmental counselling although its proponents do not discuss it in these terms.

Kohlberg et al (1972) have suggested a psychoeducational intervention with young children focussing upon the facilitation of certain developmental tasks at critical periods through the creation of optimal environments. Special attention would be directed toward those children whose rates of development are idiosyncratic and who will, therefore, experience difficulties in accomplishing these tasks within the usual time allotment for attainment. The emphasis "is upon ego development (which) is conceived to be integrally related to the child's cognitive and social learning and adaptation in the school ... environment" (Kohlberg, LaCrosse and Ricks, 1972, p. 1221).

From their review of the literature, Kohlberg et al concluded that the presence of various forms of competence and ego maturity in children best predict good mental health in adults. Thus, early intervention should have lasting effects.

The development of competence as a primary preventive strategy may be inferred from Blocher's and Kohlberg's writings.

**Competence: Its Nature and Nurture**

This is a selective review of an extensive literature on the nature and nurture of competence.

It is known that while genetic factors set the framework for the development of competence potential in humans, there is a substantial range within which widely divergent social circumstances and experiences determine differences in develop-
ment. These differences occur across culture, environment, class and family (Anastasi, 1958 a,b; Fowler, 1962; Hebb, 1949; Hunt, 1961). Furthermore, competence varies in complexity by general rules (general intelligence), by rules specific to particular environments, and by the individual's organizational mode of that competency (Fowler, 1972). The effects of early experiences on the development of competence and deficit in Canadian children have been reviewed by Fowler (1962, 1972); in other cultures and countries, particularly the United States, for example, reviews have been made by Bronfenbrenner (1967), Deutsch, Katz and Jensen (1968), Fowler (1971), and B. White (1971).

The literature which examines the nature of competence in adults and children suggests the pivotal importance of certain performance dimensions.

The terminology describing such positive performance functioning in adults is varied: the self-actualizing person (Maslow, 1954), the normal personality (Shoben, 1957), effectance (R. W. White, 1966, 1969), the fully-functioning person (Rogers, 1962), the psychologically mature personality (Allport, 1963), the reasonable adventurer (Heath, 1964), and the productive personality (Gilmore, 1974).

From these studies on competent, achieving persons has emerged evidence of an underlying core of personality traits common to such individuals. Gilmore (1974) suggested the following attributes: high self-esteem; a clear sense of
identity and of uniqueness as an individual; a highly developed
inner value system governing social behavior; realistic percep-
tion of one's own capabilities accompanied by an appropriately
high level of aspiration; an attitude of expectancy that pro-
blems can be solved; a realistic and sensitive understanding
of the environment; a capacity to attend selectively; both
the cognitive maturity and the experience to facilitate the
handling of complex information; maturity of judgement; impulse
control; and such qualities as independence, persistence and
decisiveness.

Authoritative studies on functional competency and
effectiveness in children involving large numbers of children
are rare. Two notable exceptions are the Wallach and Kogan
(1965) study, *Modes of Thinking in Young Children*, and the
B. White (1971) study on the etiology of competence in young
children.

Wallach and Kogan (1965) found certain psychological
attributes in the group of children identified as high creative-
high intelligence. These included the ability to entertain
both appropriate control and wide-ranging freedom in cognitive
functioning, both adultlike and childlike modes of conduct,
and mature social awareness coupled with a sensitivity to the
emotionality of others.

The Burton White (1971) study reported two clusters of
distinguishing abilities which were observed in very competent
children in the sixth year of life. The first cluster, social
abilities, included a variety of skills such as: getting and maintaining the attention of adults in acceptable ways; using adults as resources; expressing both affection and hostility to adults and peers; showing pride in one's accomplishments; involving oneself in adult-role play behavior. The second cluster, nonsocial abilities, included various dimensions of linguistic competence, executive abilities and attentional ability. One of the study's conclusions was that the foundation of these competencies (assuming an adequate hereditary base) appeared to emanate from particular parenting practices and a stimulating home environment.

The next question which must be answered is: Which of the traits described as being characteristic of competence are most open to environmental influence? To answer this question, reference to the literature on the predictability of adult functioning based on observed childhood traits must now be made.

Traits Most Open to Environmental Influence

To obtain information on childhood traits most readily influenced, the literature on the predictability of adult functioning is examined.

From a strictly utilitarian point of view, the concept of preventive intervention creates stringent demands for predictability. There are two related questions:

1. Which types of interventions are potentially useful in terms of permanence and value of gain?

2. When should such an intervention be made?
Possible answers to this second question will be examined in a later section.

Possible answers to the first question will be contingent upon the type of trait to be enhanced. Answers are derived in part from the previous discussion on operationalizing preventive interventions and from the discussion on the nature of competence. Other answers are derived from an examination of the predictability of adult functioning from childhood behavior - or to put this another way, by examining continuity of personality development. Such a discussion is, in essence, an explication of those traits expressed in childhood which research suggests are open to environmental influence. Some of those traits are relevant to this study.

In a monumental review of the literature on the predictability of adult mental health from childhood functioning, Kohlberg et al (1972) provided a conceptual framework which permits rationalization of the predictability of several categories of traits, of their accessibility to environmental influence, and indications about the critical period in their development.

Kohlberg and his colleagues proposed three categories of traits: symptomatic-affective, phase-specific, developmental-adaptational. The first two categories are related and will be discussed first.

The symptomatic-affective category includes the temperamental or behavioral style traits identified by Thomas,
Chess and Birch (1968). It also includes traits of motivational content such as aggressiveness, selfishness, dependence, anxiety. The temperamental traits have a genetic basis and permit forecasting of response or coping style (that is, how a child will respond rather than what his response will be). The longitudinal studies of Thomas et al (1968) revealed that while these stably predictive traits can be a source of friction between child and parent or child and school if handled in certain ways, a given pattern of temperament, did not, in and of itself, predict to later behavioral disturbance.

The traits of motivational content show very low stability and, therefore, predictability. This is due, in part, because each trait has one adaptive value at one stage and a second value at another. Generally, these traits are not supported or reinforced by the larger social environment. These may, however, be reinforced by the micro-environment within which the child lives if that environment observes different standards from those observed by society at large. However, it is important to note that if inappropriate traits of motivational content exist the school can assist the child to learn those behaviors which are approved by the macro-environment.

The second trait category includes phase-specific reactions to developmental crises. Problem behaviors may show a dramatic increase at two critical periods; the one is the five to seven age range which coincides with school entrance, latency, or concrete operational thought; the second is the
ten to thirteen age range which coincides with junior high school entrance, puberty, or formal operational thought. Kohlberg et al (1972) pointed out that much symptomatic behavior is specific to the developmental crisis and that the traits may predict from one transition era to the other but not in the intervening period.

The third category, the developmental-adaptive, is the most important from the perspective of this study. This category includes traits characterized by age-developmental trends and by adaptational significance to the individual. Examples of these include general intelligence and cognitive-style variables. This category also includes those personality attributes associated with the stage-sequential models of human development each of which assumes a single, invariant, universal developmental sequence (Erikson, 1950; Gesell, 1954; Piaget, 1928). These models conceptualize an orderly sequence of change. The individual's location in the sequence at any later point is related to location at an earlier point in the sequence. While personality transformations are radical, there is continuity through these transformations. Because the organization is hierarchical, "the individual's developmental status is predictable or cumulative in the sense of continuity of position on an ordinal scale" (Kohlberg et al, 1972, p. 1223).

The developmental-adaptational traits include cognitive, moral and ego development. While correlations among them are moderately substantial (since there are cognitive-competence
components in all three), factor analysis does distinguish among them. Some evidence implies a relationship such that the more specific trait (eg. moral development) depends upon the more general (eg. cognitive development), but not vice versa.

By combining the hierarchical stage approaches with the intellectual ability, cognitive-style, coping-style studies, it is possible to derive broad, relatively predictive descriptions of ego development which include cognitive, moral and self-conceptual components. Kohlberg and his colleagues point out that such descriptions are at present the best general tool for long-range prediction which normal child development studies can offer the clinician. This would be expected since these traits have a cognitive base and are sequential and cumulative. Furthermore, the positive adaptational traits are reinforced by the environment. In terms of predicting adult functioning, Kohlberg et al (1972) found that "positive status on a developmental-adaptational trait is predictive of later absence of maladjustment ..." (p. 1232).

A diagrammatic representation of the components of ego development is presented in Figure 1. It illustrates, also the relationship between cognitive, ego, and moral development.

Because of the relevance of the developmental-adaptational traits to this study a more detailed discussion follows in the next section.
Figure 2. Cognitive, ego and moral development: ego development as cognitive functioning in the realm of social self.
The Developmental-Adaptational Traits

Ego Development

Age-developmental trends which parallel or include moral development have been identified (Harvey, Hunt and Schroeder, 1961; Loveinger, 1966; Van Den Daele, 1968). Stage of ego development is based on the level of conceptualization of self, ego-ideal, social relationships and social values; that is, it represents cognitive functioning in the domain of social self.

Self-concept. As one element within this group, the self concept is defined as all the attitudes, feelings, opinions and beliefs held by the individual about himself (Purkey, 1967). As the centre of experience and the criterion against which all external events are measured it is not surprising that research shows it to be a central determinant in behavior (Brookover, 1959, 1964, 1965, 1967; Combs, 1962, 1969; Coopersmith, 1967; Diggory, 1966; Hamachek, 1975; Patterson, 1961; Purkey, 1970). This literature indicates that self is learned and is, therefore, accessible to change, particularly in the early phases of development. Furthermore, there is a direct relationship between the child's sense of self-esteem and academic achievement (Bodwin, 1957; Bruck and Bodwin, 1962; Campbell, 1966; Douvan and Gold, 1966; Fink, 1962; Lamy, 1965; Shaw and McCuen, 1960; Walsh, 1956; Wattenburg and Clifford, 1962).
There is some evidence to suggest that such positive self-development learned in childhood tends to continue on into adulthood (Bloom, 1964; Bower, 1966; O'Neal and Robbins, 1958; Kagan and Moss, 1962; Kohlberg, LaCrosse and Ricks, 1972). Given that these positive experiences are a foundation upon which an increasingly complex psychological and personality superstructure may be built, the importance of early success experiences for the young elementary school child becomes self-evident. As Hamachek (1975) noted, "These are the years when the footings of a child's personality are either firmly established in experiences of success, accomplishment and pride in himself or flimsily planted in shifting sands of self-doubt, failure and feelings of worthlessness" (p. 543).

**Social Competence.** This is a second component within ego development. Its significance to the overall functioning of the child and as a powerful predictor of adult mental health status determines its importance in this study. Research indicates that social competence is not only directly related to the child's capacity to use his abilities but also is an indicator of his current mental health status (Bower, 1965; Caplan, 1961b; Glidewell, Kantor, Smith and Stringer, 1966; Jennings, 1963; Lippitt and Gold, 1959; Schmuck, 1963, 1966; Van Egmond, 1960; E. White, 1971). Kohlberg et al (1972) also found aspects of overt social conduct and functioning as key predictors of adult mental health functioning. For example, antisocial behavior, encompassing both aggressive behavior
involving violation of persons or property and rule-violating behavior, was the single most powerful predictor of later adult maladjustment. Their survey of the literature also indicated that peer acceptance and stability of relationships with peers added considerably to predictions about later capacity for effective functioning. The personality attributes they found which appeared to relate to peer acceptance were those pertaining to ego development and to personality-adjustment: intelligence, control of antisocial behavior, control of distractible behavior, moral behavior, and capacity for cooperation.

Furthermore, some studies revealed the salience of teacher perceptions of pupil behavior to later adjustment status, particularly observation of the aggressive, immature, underachieving behavior constellation (Wickman, 1928; Kellam and Schiff, 1967).

In view of these findings three different measures of social competence were included as dependent variables in this study.

Cognitive Development and Affectivity

Reference has already been made to the assumption held by Kohlberg et al (1972) based on their analysis of the research literature, that a cognitive structural base underlies the developmental-adaptive traits.

Piaget (1967) viewed the evolution of cognitive functioning throughout childhood as closely paralleling the evolution
of affectivity. He maintained that "affectivity and intelligence are indissociable and constitute two complementary aspects of all human behavior" (p. 15). Some support for this view is presented in the classroom research of Biber (1961); Lippitt, Fox and Schmuck (1967); and Sanford (1967), which indicates that the cognitive and affective processes are related.

It is no longer feasible to dichotomize the learning functions (mastery of symbol systems, processes of reasoning, judging and problem-solving, acquisition and ordering of information, etc.) on the one hand, and the processes of personality formation (self-feeling and identity, relatedness potential, autonomy, integration, creativity, etc.) on the other. It is therefore no longer an open question as to whether or not the school has an impact on developing personality (Biber, 1961, p. 323 - 324).

Kohlberg et al (1972) pointed out that the parallelism between cognitive and affective development was also suggested by the fact that cognitive maturity measures, such as the Stanford-Binet, correlated with measures of maturity in affective development wherever reliable culturally general age-developmental measures in this area have been found. These correlations exist, for example, in such widely divergent areas as children's fears (Jersild, 1943), children's humor (Levine, 1968) and differentiated expression of affect (Ellinwood, 1969). The maturity of perception of the social-emotional situation by the high creative-high intelligence children in the Wallach and Kogan (1965) study also demonstrated the cognitive-structural component in emotional development.

Another aspect of affectivity related to the expression
of competence was proposed by Fowler (1972). He suggested that the expression of competence will vary sharply with the manner and degree to which the affectional energies are distributed and oriented. This, in turn, would determine the availability, persistence, and organization of effort directed toward the task.

In this study two measures of emotional development were included as dependent variables.

One other dependent variable in this study, academic achievement, is also a gross developmental-adaptational trait although it is technically not equated with basic cognitive development.

The next topic to be examined is the optimal timing for those preventive interventions which seem to have a positive effect upon competencies related to cognitive and ego development.

**Timing of Preventive Interventions: Critical Periods in Development and Transition States**

Prior discussion has alluded to the centrality of optimal timing in order to ensure successful outcomes for primary preventive interventions. It has also alluded to the fact that knowledge of the ontogeny of a trait provides information about a critical period in its development.

The salience of the critical period may best be understood by briefly examining the biological formation of organs
in the embryo. Each organ has its time and place of origin. Each is equally important for the expression of the organ. If the organ begins its ascendancy at the right time, another time factor determines the most critical stage in development. Interruption or arrest of a rapidly budding part at an early stage will suppress or distort the organ (Erikson, 1950).

Application of the critical period concept to the development of a human trait suggests definition of the period as one which is characterized by rapid stabilization (and, therefore, predictability) of that trait. For example, Bloom (1964) proposed that a critical period in the stimulation of the development of intelligence occurs between the ages of one to five. Kohlberg et al (1972) disputed the application of the critical period logic to a largely hereditary trait such as intelligence citing as evidence the apparent failure of Head Start projects to demonstrate gains in intelligence. However, to the degree that environmental factors can influence the optimal expression of intelligence in the form of a wide range of performance competencies, it is more likely that period would seem to occur between the ages of one to three years as suggested by the findings of B. White (1971).

A second example of a critical period is provided by Blatt and Kohlberg (1972) who have identified and substantiated a rapid period of growth in moral development between the ages of nine to twelve. The increased predictability of moral maturity at age twenty-five from age ten to age thirteen is
the result of rapid moral growth (Kohlberg, 1969).

From a survey of longitudinal studies, Kohlberg et al (1972) found a critical period in the formation of attitudes and abilities (other than general intelligence) positive for school learning which contributed to school achievement. Stabilization of interest in learning, attention, and sense of competence appeared to occur in the first three grades of elementary school (ages five to nine).

A variation of the critical period is the transition state. The transition state, a term used by Tyhurst (1957), Caplan (1961 b) and others, is a period during which the individual is dealing with a life stress. Such a stress may take the form of a crisis which threatens personal loss or which challenges the individual beyond his current capacity. The life stress may be related to an expected transition in the individual's biological development or to a marked change in his customary social role. These stresses are termed biopsychosocial developmental tasks (Caplan, 1965). What emerges during such a transition period or personal crisis is a time of emotional and cognitive disequilibrium. During this period of flux the individual is more susceptible to influence by others than during his customary state of psychological stability. It is during this fluid state that a relatively short-term intervention may be instigated. The nature of the developing crisis and the type of material and/or psychological assistance provided to the individual will greatly influence
his crisis response. An appropriate intervention provides a substantial increase in the individual's capacity for coping with life in adaptive healthy ways. Such coping skills remain as permanent gains.

A natural transition point for the young child is school entry. The review of literature has shown that the child is beginning to acquire a number of coping skills related to cognitive and ego development. Appropriate assistance with this critical bio-psycho-social developmental task should smooth the period of transition and could provide important gains for the child.

Application of the Kohlberg Developmental-Adaptational Model to this Study

Both the Kohlberg developmental-adaptational model and the prior literature cited would indicate that a preventive intervention which focuses upon the acquisition of competencies related to cognitive and ego development would likely be successful in the five- to seven-age period.

Literature on School-based Preventive Approaches

A variety of preventive approaches to dealing with emotional and behavioral problems in the school have been proposed. Zimiles (1967) recommended a social systems analysis as a precursor to primary preventive work. Morse (1967) has placed a focus upon upgrading the competence and knowledge-ability of teachers relevant to the field of mental health.
Another approach has been to work in the same area with parents through the school (Gildea, Glidewell, and Kantor, 1961; Crosby, 1963).

Curriculum approaches to the promotion of mental health and the research on these have been reviewed by Kaplan (1971).

The Delaware Human Relations Project (Bullis and O'Malley, 1967) has been investigated by Matlock (1960) and Miller (1963), both of whom reported finding a positive contribution to the mental health of the children involved in the project. The mental health topics stories of Sugarman (1965) for first to fifth graders and the text for intermediate grades on mental health by Limbacher (1967) are other representatives of the curriculum approach. Positive results with the latter were claimed by Limbacher (1967). Kaplan's criticism of these types of programmes was that such didactic, moralistic, focus-on-facts approaches were not likely to develop in children those attitudes and understandings needed to clarify and resolve their own emotional and human relations problems.

Another approach has been the informal or incidental inclusion of mental health concepts as they have arisen out of the needs, interests, and current problems of the children themselves. Such learning experiences which capitalize upon immediate classroom or playground situations have the advantage of timeliness and high interest; the children are helped to clarify and release their emotions. However, without teacher sensitivity to children and knowledge about child psychology
as well as about mental health, such instruction can become superficial receiving only sporadic rather than continuous attention.

The Dekatur School Board (1965) has created a series of resource units designed to build student self-respect and used across kindergarten to Grade 6 levels. Rather than subject matter units per se, these form areas of study and experience structured around the actual classroom living situation and are determined largely through teacher/pupil planning.

The human relations case approach (Hoover and Hoover, 1968) has been used effectively with junior and senior high school students. Small group discussion of short incidents or actual problems accompanied by a description of the attitudes of the people involved, allows the student realistic contact with life situations from which he may derive an understanding of human relations dynamics.

Ojemann (1967) has developed another approach, one incorporating psychological concepts into regular school curriculum. This encourages a focus upon understanding the forces influencing human behavior. Evaluation of this type of programme with sixth graders (Ojemann, 1967) and with fourth- and fifth-grade classes (Griggs, 1964) found significantly superior results in terms of self-perception and in total mental health.

Kaplan contended that these and other studies show in general that mental health instruction tended to improve
children's behavior both by reducing classroom tension and by increasing cooperative behavior. Crosby (1963) found that a marked improvement in academic achievement accompanied these changes in attitude and in behavior. Still other studies (Davis, 1965; Withall, 1964) indicated that an emphasis on improving human relations in the classroom and on meeting the emotional needs of children resulted not only in significant learning gains but also in overall enhancement of the emotional adjustment of the children.

Kaplan pointed out that most of the techniques described may be incorporated into existing courses or programmes using no great expenditure of time. He concluded that by emphasizing human relations and mental health concepts, learning was improved and better personal and social integration resulted (p. 369).

Several other published psychoeducational curriculum resources now widely available have been designed to promote, in broad terms, understanding of self, of others, and of social-emotional behavior. These include Developing Understanding of Self and Others (DUSO) (Dinkmeyer, 1970), the Focus on Self Development (Science Research Associates, 1970) and Methods in Human Development (Bessell and Palomares, 1969, 1973). It is the latter programme which is the object of this current study. Because the programmes have some similarities to each other in terms of the basic theme, a brief description of each with reportings of research follows.
The DUSO (1970) has been designed to assist children in understanding social-emotional behavior. It consists of a series of activities including group discussion planned around the developmental tasks of childhood and includes materials such as storybooks, posters, puppets, and records or cassette tapes of additional stories and songs to supplement the main themes. Based on Adlerian theory and the purposeful, causal nature of human behavior, the programme attempts to stimulate the development of social interest in the child in order that he may more readily recognize the goals of his behavior and understand the nature of his faulty relationships with others.

Research on the use of DUSO with elementary school children reported positive results in a guidance programme with specially selected children (Zingle, 1972) and improved self-concepts with others (Koval and Hales, 1972; Rusch and Dinkmeyer, 1972; Eldridge, Barckowski and Witmer, 1973).

The Focus on Self-Development (SRA, 1970) is intended to be another elementary school guidance resource. A developmental programme, it attempts to foster understanding of self, others, and environment. The conceptual framework is provided by the Taxonomy of Educational Objectives: Affective Domain (Krathwohl, Bloom and Masia, 1964). Materials provided in the kit include film strips, records, photoboards and pupil activity books. The manual reports only field testing.
The Methods in Human Development Programme

The Bessell and Palomares (1969) programme is based on self-concept theory and on the motivational theory of Karen Horney (1950). The curriculum focuses on three critical areas of experience for a preventive programme; awareness of and understanding of the children's affectional processes and of their relationship to thinking and behavior; mastery of cognitive and other performance modes of functioning in order to promote self-confidence and responsible competence in the child; interpersonal skills which include understanding of others and of the principles of social interaction. These may be summarized as "I feel", "I think and/or I know" and "I can do". These themes are sequentially developed.

The HDP programme differs from the other two psycho-educational programmes (the DUSO and the SRA) in two important respects. Firstly, the HDP programme offers direct rather than vicarious experiences to the child. That is, the child deals with his own life experiences and feelings rather than with stories or films about those of others. Secondly, the method used resembles the small group process except for the structured nature of the interaction and for the specification of topics.

The guided group process itself is important to the developing child for a number of reasons. Kubie (1967) illuminated the potential value of this type of personal discussion:
The child buries pain every day; and the accumulation of buried pain gradually isolates him from his elders and his age peers, and makes him afraid to allow his mental processes to flow freely. He becomes in varying degrees constricted. This destructive process could be held in check and reversed if that which the child buries were to be exhumed day by day as he is burying it. Thus the early introduction into the education process of techniques borrowed from group psychotherapy but not identical with it could unlock the doors which imprison us into our masked neuroses (p. 96).

This discussion vehicle is tailored to the concepts themselves and to the child's level of language development and understanding. He experiences the sharing of personal data in a natural way learning that he is, at the same time, like each other child yet different, too.

Another aspect which is of value to the child in this particular structured format is the modelling by teacher and peers of appropriate attending and listening behavior (Bandura and Walters, 1963). The child's own efforts to reproduce similar behavior are actively reinforced in the programme. Because peer group behavior is shaped in constructive and positive ways through modelling, reinforcement and through the particular topics introduced in the curriculum (see Appendices A and B), an additional benefit may accrue over time to the child. The impact of the age-segregated peer group upon children's values and behavior has been documented by Bronfenbrenner (1970). His cross-cultural research has demonstrated the progressive decrease in parental involvement with their children and the
corresponding increase in the role played by the peer group in socializing the child. This peer influence upon the child in the pluralistic Western technological societies has been shown by that research to be a negative force in the child's socialization. The peer-oriented child is characterized as holding negative views of himself and of his peers, as having a dim view of the future, and as engaging frequently in anti-social behavior. Coleman (1966) has also reported that the factor in the school environment which contributes most to the child's intellectual achievement was the characteristics of the other children attending the same school. Both the structured format of the HDP programme and the content appear to have a potential for creating a more positive peer climate to contravene the debilitating influences described by Coleman (1966) and Bronfenbrenner (1970).

The HDP programme was selected for this current study for all of these reasons in addition to the emphasis upon the acquisition of competencies related to cognitive and ego development.

It is recognized that human development is complex. There are genetic determinants for the structure and kinds of capacities as well as for the rate of development of the individual. There are differences in the kinds of organism-environment transactions. Timing, the nature and the extent of the experiences are important factors in influencing human development and learning. However, the child is a unified
system: what influences one aspect of him has an effect upon all of him. While the riddle of human development is complex, this one aspect of the total problem is selected for study. Can an intervention using the *Methods in Human Development* programme between the ages of 5 to 8 years further ego and cognitive development in the areas of social, affective and cognitive competence?

If this study demonstrates that children do improve their competence level in skills related to ego and cognitive development, the use of the Bessell and Palomares programme could be one type of intervention to assist children to become more competent, fully-functioning individuals, cognitively, affectively, and socially.

**Summary**

This chapter has presented a review of the relevant literature on primary prevention as an alternative to the traditional treatment modes for dealing with emotional, learning and behavior problems in young children. That literature, particularly the Kohlberg, La Crosse, and Ricks' (1972) review, presented some support for a psychoeducational intervention during a critical period in the etiology of competencies related to cognitive and ego development in young children. An overview of the literature on school-based preventive approaches concludes with a description of the distinctive features of the Bessell and Palomares programme which is the object of
this research. The basic research question is: Can an inter-
vention with kindergarten and first grade children using
Methods in Human Development develop competencies in areas
related to cognitive and ego development?

The specific hypotheses on the use of HDP will be
developed in the next chapter.
CHAPTER III

RESEARCH HYPOTHESES AND OPERATIONAL DEFINITIONS

The purpose of the study was to determine the effects of the Bessell and Palomares programme upon the acquisition of three types of functional competencies related to ego strength, positive self-development and mental health: cognitive performance competence, social competence, and emotional competence.

This chapter provides a rationale for each general hypothesis and the criterion measures selected followed by a specific hypothesis or hypotheses. Operational definitions and a summary conclude the chapter.

HYPOTHESES

Rationale: Hypotheses 1 and 2

Both the nature of the programme and the literature reviewed provided a rationale for the hypotheses and for selection of the types of criterion measures.

Examination of the Methods in Human Development (HDP) programme reveals both the sequential nature of the material and a content apparently directed toward enhancing the acquisition of the functional competencies described above. The programme provides both cognitive learnings and experiences which should promote development of competencies in affective, cognitive and interpersonal areas. Specifically,
these are:

1. awareness of and understanding of the child's affective processes, and of the relationship of these to thinking and behavior;

2. mastery of certain cognitive (academic) skills and of other performance skills which, in turn, promote self-confidence, independence and responsible competence;

3. interpersonal skills furthering a mature social awareness and responsiveness to others as well as an understanding of the principles of social interaction.

In addition, the small group process and the structured nature of the interaction within the programme sessions provide ongoing reinforcement and modelling of attending and other learning-appropriate behavior. Thus, both programme content and process suggested selection of criterion measures relevant to cognitive, affective and social performance areas.

The literature reviewed also offered evidence supporting the selection of these performance measures. That literature suggested that fostering of various forms of competence related to ego maturity sets an intertwining and spiralling pattern of ego development. This development serves as a form of primary prevention. These competencies include school achievement, effective problem-solving behavior, positive self-feelings, and skill in interpersonal relationships.

Ego strength, for example, was shown to be associated both with a reflective and analytic style of cognitive control.
Furthermore, the productive personality was described as having the capacity to attend selectively, as having an attitude that problems can be solved and as possessing an ability to withstand stress. Given the focus within the Bessell and Palomares programme upon the development of attending and related problem-solving behaviors, it became logical to incorporate sustained problem-solving behavior as one dimension of cognitive performance.

School achievement was cited in the literature as a relatively good gross predictor of adult adjustment and as a correlate of most childhood measures of adjustment. Again, the HDP programme accentuates the mastery of certain academic skills. School achievement, therefore, was included as a second measure of cognitive performance competency. However, since the academic skills (reading, written language expression, arithmetic) used to calculate school achievement are not normally introduced as part of curriculum until first grade, this measure was available for first grade subjects only.

Social competence, another aspect of ego development, was highlighted frequently in the review of literature. The relationship between the child's social competence and capacity to use his abilities was emphasized. Social and affective skill development are known to be important to school achievement, too. Aspects of overt social behavior were found to be key predictors of later adult adjustment. Moreover, the litera-
ture suggested that peer relationships added considerably to predicting the level of adult functioning. The relevancy of teacher perceptions of pupil behavior to adjustment status was also demonstrated in some studies. Finally, consideration of the emphasis within the HDP programme upon the development of social skills supported the inclusion of three types of criterion measures for social competence.

The literature reviewed likewise suggested a relationship between affective and cognitive processes. Furthermore, it indicated the centrality of self-perceptions as behavioral determinants. It will be recalled that awareness of the child's own and others' affective states form a substantial part of the HDP programme. Since part of self includes feelings about self and perceptions of life, two measures of affective responses were included in the study (see p. 59 and p. 60).

The nature of the criterion measures necessitated grouping of data into that which could be obtained for both kindergarten and first grade subjects and that which could be obtained for first grade subjects only. The first two hypotheses reflect this grouping.

A further notation is required at this point regarding the alterations made within the programme. Time constraints necessitated certain contractions or omissions in the prescribed curriculum. The changes made are detailed in Chapter 4 supplemented by an outline of lessons used which is provided in Appendices A and B. Because of these modifications the
programme is identified as MHDP in the hypotheses.

**General Hypothesis 1**

The MHDP programme should demonstrate its overall effectiveness as compared to another treatment programme, Show-and-Tell (SAT), in promoting greater competence in first grade and kindergarten pupils on a cluster of criterion measures related to ego strength: cognitive performance competency, social competency and affective competency. In comparison to SAT, the MHDP programme should demonstrate its greater overall effectiveness in:

1. enhancing an increased capacity in the participants for sustained attention and effective mature problem-solving behavior as measured by the Keister Puzzle Box;

2. increasing social adeptness because of its focus upon the area of interpersonal competence as measured by:
   
   (a) the *Behavior Rating of Pupils*, a teacher perception measure, and
   
   (b) *The Class Pictures*, a peer perception measure (Peer 'B'), and
   
   (c) a three-item sociometric measure of peer affiliation (Peer 'A');

3. promoting a more positive emotional response to life as measured by *A Picture Game*.

The review of literature offered little or no empirical evidence to warrant a directional hypothesis. The statistical hypothesis is, therefore, in null form.
Hypothesis 1. Mean change scores are not significantly greater for MHDP groups than mean change scores for SAT groups for treatment main effects on five dependent variables: persistence time in mature problem-solving behavior (Keister Puzzle Box); teacher rating of dysfunctional social and learning behavior (Behavior Rating of Pupils); peer nomination for observed positive or neutral behavior (Peer 'B'); peer selection for personal affiliation (Peer 'A'); self-perception of the dominant emotional response to life (A Picture Game).

General Hypothesis 2

The programme emphasis upon mastery of academic skills and upon a sense of personal competence should be reflected not only in increased academic achievement as measured by GPA but also in greater feelings of independent security as measured by increased scores on The Story of Tommy, another measure of affect.

Hypothesis 2. For first grade subjects, mean change scores are not significantly greater for the MHDP groups than for SAT groups for treatment main effects on two dependent variables; school achievement (GPA) and independent security (The Story of Tommy).

Rationale: Hypotheses 3 and 4

Any differential responses to treatment due to sex or grade-level factors must be controlled within the design of the study. Therefore, sex and grade-level were assigned as independent variables.
General Hypothesis

Neither sex nor grade-level will influence the dependent variables identified in Hypothesis 1 and/or 2 to a significant degree.

Hypothesis 3. There is no significant difference between males and females on each of the criterion measures.

Hypothesis 4. There is no significant difference between kindergarten and first grade pupils on each of the criterion measures.

Rationale: Interaction Hypotheses 5, 6, 7 and 8

With three independent variables in the design - treatment, sex and grade-level - interaction effects may occur. Hypotheses are presented to include these possible interactions.

General Hypothesis

There will be no significant interactions for the following: treatment-by-sex (TxS); treatment-by-grade-level (TxG); sex-by-grade-level (SxG); and treatment-by-sex-by-grade-level (TxSxG).

Hypothesis 5. Differences in mean change scores between MHDP and SAT groups for males are not significantly different from mean change scores between MHDP and SAT groups for females on each of the criterion measures.
Hypothesis 6. Differences in mean change scores between MHDP and SAT groups for kindergarten pupils are not significantly different from mean change scores between MHDP and SAT groups for first grade pupils on each of the criterion measures.

Hypothesis 7. Differences in mean change scores between males and females in kindergarten are not significantly different from mean change scores between males and females in first grade on each of the criterion measures.

Hypothesis 8. Differences in mean change scores between MHDP and SAT groups for males and females in kindergarten are not significantly different from mean change scores between MHDP and SAT groups for males and females in first grade on each of the criterion measures.

OPERATIONAL DEFINITIONS

Operational type definitions are provided for each of the kinds of competencies used as dependent variables. These definitions will be supplemented by discussion appearing in Chapter 4.

Cognitive Performance Competency

Cognitive performance competency was defined as the scores received on each of two criterion measures. The first, the Keister Puzzle Box, provided a measure in minutes of time spent in mature problem-solving behavior. The second, for first grade subjects only, was a measure of school achievement, the Grade Point Average (GPA), calculated on achievement in the Language Arts (reading and written language expression) and in Arithmetic.
Social Competency

Social competency was defined as the scores received on each of three sociometric nomination devices. The first was the Behavior Rating of Pupils, a measure of teacher perception of the amount of dysfunctional social and learning behavior. The second, The Class Pictures, was a measure of peer observation of positive or neutral behavior and is identified as Peer 'B'. The third was a three-item sociometric measure of peer affiliation, Peer 'A'.

Affective Competency

Affective competency was defined as the scores received on two instruments. The first, A Picture Game, was a projective measure of the child's predominant emotional response to life with the score representing the number of 'happy' responses. The second, The Story of Tommy, was a measure, for first grade subjects only, of the child's feelings of independent security.

SUMMARY

The purpose of the study was reiterated. For each hypothesis, a rationale was presented which recapitulated the literature very briefly. This was followed by a general hypothesis which provided the statement in psychological terms and by the corresponding statistical hypothesis or hypotheses. Operational type definitions were provided.
CHAPTER IV

RESEARCH DESIGN AND INSTRUMENTATION

The purpose of the study has been stated as determining the specific effects of the Bessell and Palomares programme upon the acquisition of three types of functional competence in young children. These competencies are related to ego strength, positive self-development and a state of mental health: cognitive performance competence, social competence and affective competence. The effects of this structured discussion group programme upon the acquisition of these competencies were compared to the effects of another discussion programme traditionally employed in kindergarten and primary grades, Show-and-Tell.

This chapter is organized into three major sections. The first contains a description of the design and a brief identification of the dependent variables. The second discusses procedures. It begins with a detailed description of each instrument used as a measure of the dependent variables. These are followed by a description of the sample, of programme, treatment, testing and statistical procedures. The third section provides a brief summary.

DESIGN

In order to control for sex and grade-level differences these variables were included as additional independent
variables in the study. Each of the independent variables included two levels: treatment - the Bessell and Palomares programme (Experimental Treatment, T₁) and Show-and-Tell (Comparison Treatment, T₂); grade - kindergarten and first grade; and sex - boy and girl. Since it was not intended to generalize beyond these levels, the design can be described as a fully-crossed fixed-effects three-factor design. A schematic representation of this design is presented in Figure 2.

![Schematic representation of design](image)

**Figure 2. Schematic representation of design**

The difference between pretest and posttest scores was used as a measure for each of the following five dependent variables:

**Cognitive Performance Competency**

1. Persistence time in minutes spent in mature problem-solving behavior as measured by a modification of the Keister Puzzle Box.
Social Competencies

2. Teacher perception of the amount of dysfunctional or negative classroom, social and learning behavior as measured on the Behavior Rating of Pupils.

Rating of Pupils

3. Peer perception of observed socially positive or neutral behavior as measured by frequency of nomination on an adaptation of The Class Pictures (Peer 'B').

4. Peer selection for entry into interpersonal relationships involving work and play situations as measured by frequency of nomination on a three-item sociometric device (Peer 'A').

Affective Competency

5. The self-perception of the child's dominant emotional response to life as measured by A Picture Game.

In addition to the five measures above which were used with both grade levels, two additional measures were collected for first grade students. These were:

Cognitive Performance Competency

1. Academic achievement as measured by the Grade Point Average (GPA) computed on reading, language arts and arithmetic performance.

Emotional Competency

2. Feelings of independent security as measured by the Institute of Child Study Security Test, The Story of Tommy.

Neither of these kinds of data could be obtained for
kindergarten children because first grade academic skills (eg. reading) were required for both measures.

PROCEDURES

Description of Instruments

Cognitive Competency Measures

For the purposes of this study two measures were taken, one in each of the two parts of the design.

**Keister Puzzle Box.** A standard problem-solving situation was needed which made available for study under comparable controlled conditions the reactions of children to a standard situation. Such a problem, while possible of accomplishment, needed to be difficult enough that immediate success was unlikely for the majority of children. Thus, some frustration would occur. Such a test carried other specifications as well. It needed to be a natural activity like a play situation; it needed to be simple enough so that the average child could clearly perceive that success was possible through his own efforts. Such a test was found in the Puzzle Box Test (Keister, 1937).

A shallow 9 inch square wooden box similar to the one shown in Keister's work was constructed. It contained 10 brightly colored enamelled wood blocks in assorted shapes such as a sailboat, a car, a house. When all the wooden figures were placed flat in the box, the lid of the box could be closed and locked. As each child tried to solve the puzzle in the
allotted time of 12 minutes, his performance was videotaped for later playback and rating. Three trained raters using stop watches rated each child according to the maturity of behavior as defined by the researcher. A copy of that definition is included in Appendix C. The number of minutes spent in mature problem-solving behavior was recorded on the rating sheet designed for this purpose. This rating became the child's score on the test.

The raters were trained on two training tapes showing several kindergarten and first grade pupils of both sexes solving the puzzle. A third tape was prepared containing six segments showing six different children, boys and girls, kindergarten and first grade pupils, who were solving the puzzle. This third tape was used to determine rater reliability.

Reliability of the three judges' ratings on the subjects were calculated using the analysis of variance procedure described by Winer (1971). This procedure gave a reliability coefficient of $r^3 = .91$.

Also appearing in Appendix C are the definition of immature behavior (Keister, 1937), the directions for administration, a description of the method of familiarizing each child with the videotape equipment and a sample of the rating form used.

The Keister Puzzle Box was used with both kindergarten and first grade pupils.

**Academic Achievement.** For first grade students academic
achievement was measured by calculating the Grade Point Average (GPA). This was computed from letter grades assigned by teachers for the December and Easter reporting periods on Language Arts (reading, written language usage, and vocabulary development) and Arithmetic. Letter grades were transformed to numerical values using a seven point scale: A = 7; B = 6; C+ = 5; C = 4; C- = 3; D = 2; E = 1.

Social Competency Measures

Three measures of social competency were used in the present study. The first two, the Behavior Rating of Pupils and The Class Pictures, were adapted from A Process for In-School Screening of Children with Emotional Handicaps (Bower and Lambert, 1962). The third measure was a three-item sociometric device constructed for the purposes of this study by the researcher.

Behavior Rating of Pupils. This instrument is one of three sub-tests in A Process for In-School Screening of Children with Emotional Handicaps (Bower and Lambert, 1962). It provides a measure of teacher perception of student behavior. It is a simplified Q-sort system in which each student's name is placed on an appropriate normal distribution ranging from a rating of one (positive behavior) to seven (negative behavior) on eight statements of maladjusted behavior. High total scores indicate a great degree of disturbed behavior. Directions for administration and a copy of the rating scale and the eight statements appear in Appendix C.
Validity studies on the Behavior Rating of Pupils included an item-analysis of the test and a median test with both providing some positive data. The authors recommend further validation studies. Reliabilities are not reported. However, the Technical Report (Lambert and Bower, 1961) does state that wording of all eight statements have been modified since the earlier studies in order to promote consistency of interpretation and to increase the reliability of the ratings.

The Class Pictures. The second sub-test from the Bower and Lambert battery was modified for use at the insistence of the research division of the school board of the district in which the sample school was situated. Half of the 20 pictures, those portraying negative behavior, had to be deleted. The Class Pictures became a ten-item sociometric device measuring peer perception of positive or neutral learning and social behavior.

The ten picture cards were shown individually to each child. There were five pictures of boys and five of girls whose overt behavior would be identified as emotionally positive or neutral. The total number of selections received by each child became his score.

Readministration of the full test three weeks apart produced reliability coefficients of .60 for kindergarten pupils and .77 for first grade pupils (Lambert and Bower, 1961). The Technical Report went on to note that in the true
sense of the word "reliable", the reliability correlation is low for kindergarten; however, reliability ratings increase to third grade.

Directions for administration are presented in Appendix C.

Three-Item Sociometric Test. This sociometric test assessed the expressed desire of each child for affiliation with his classmates. Because The Class Pictures had to be modified (by deletion of the negative pictures), this sociometric test was constructed to assess desire for peer affiliation. It was assumed this test would provide supplementary data to The Class Pictures. While each of the three measures of social competence assess somewhat different facets of that competence, it can be expected that they share a common variance. Correspondingly, it was anticipated that behavior should be consistent across the three measures.

This test was to provide data about children who were more attractive to their peers either because they displayed friendly behaviors and/or possessed some skills or other attributes admired by their peers.

Each child was asked to nominate one child or more from the class for each of the following situations:

1. Whom would you most like to have to work with on a school project?
2. Whom would you most like to play with at recess or noon-hour?
3. Whom would you most like to have for a best friend?

There was no limit on the number of selections for each item. The number of selections formed the child's score.

Affective Competency Measures

For the purposes of this study two measures were taken: A Picture Game, for use with both kindergarten and first grade pupils; and The Story of Tommy for use with first grade subjects only.

A Picture Game. This test is a self-perception measure and is the third sub-test of the Bower and Lambert test battery. A projective test, it requires each child to sort 66 pictures of neutral events or objects into one of two categories: "This is a happy picture" or "This is a sad picture" into a two-compartment box. Each picture is categorized according to the child's perception of it. The first 12 cards are stereotypes of obviously happy or sad situations which have been included to check on the child's understanding of the task. Scoring is accomplished by counting the number of cards in the "happy" compartment.

Data on item-analysis in the Technical Report (Lambert and Bower, 1961) show few items discriminating the emotionally handicapped (EHC) from those not so identified (NEHC). The authors conclude that individual items could not be taken as predictive of classification as EHC or NEHC. A sign test did, however, reveal that EHC pupils see the pictures as "sad" more frequently than NEHC pupils. However, since the instru-
ment was not being used in this research to separate EHC from NEHC children this lack of predictive validity has no effect on this study.

Reported reliability coefficients for kindergarten children range from .52 to .62; for first grade children, from .66 to .77. The data is cited as evidence that there is enough consistency in the children's responses to suggest that a reasonably stable characteristic is being measured. In this research that characteristic was the overall emotional response to life as happy or sad.

Directions for administration appear in Appendix C.

The Story of Tommy: A Primary Form of the Institute of Child Study Security Test. The test, used with Grade One pupils only, measures the secure feeling states associated with certain behavioral response patterns. As outlined by Grapko (1965),

Behaviors (reflecting) an increase in skill or knowledge contribute to the development of security. It is assumed that the child's acquisition of skill, technique or knowledge increases the probability of behaviors which will result in consequences acceptable to the child (p. 3).

In solving problems and in responding to day-to-day activities, the child can adopt one of four approaches. Firstly, through the utilization of his previous experience, knowledge and skill in a direct confident approach to the task, the child extends his competence and his independent security. Secondly, in perceiving the task to be too difficult or complex, the
child may ask for help thereby achieving confidence in anticipation of the outcome. This mode of functioning is termed immature dependent. Thirdly, the child may respond with a defense mechanism to ameliorate anxiety. "In security terms, the defense (which reduces anxiety) contributes to a quasi-security (and) is called a deputy agent" (Grapko, 1965, p. 4).

Lastly, the child faced with a difficult activity may become immobilized and manifest the feeling state of insecurity.

From this conceptual framework, The Story of Tommy was developed. The child is asked to rank his preference for each of four approaches to twelve situations which sample the typical daily activities or tasks of the young child. Each situation is accompanied by four descriptions of behavior reflecting the four security states.

The rankings are used to calculate a Consistency Score and a Security Score. The Consistency Score measures the degree of uniformity in ranking while the Security Score provides a measure of deviation between the child's order of ranking and the rank order based on optimal security development. Higher scores indicate a more optimal security state.

The reliability coefficients reported for the test are as follows: Security - .62 for boys and .65 for girls; Consistency - .53 for boys and .65 for girls. Reliabilities for other personality tests reported by Anastasi (1958) range from the low .40's to .80's. The figures for this test are quite comparable.

Validity coefficients provided by Grapko (1965), while
low, are comparable to those reported by Cronbach (1949).

A sample of the test and the directions for administration are included in Appendix C.

**Sample**

The sample consisted of the entire kindergarten and first grade enrolment of a typical school in an older section of a large metropolitan city (population approximately one million.) Varying socioeconomic levels were represented by the families of the children attending the school, although the majority (98%) were from the lower and middle-lower working classes. A small number of welfare families were represented as were a few prosperous professional and entrepreneurial families housed in small enclaves within the community. In recent years, a growing number of new immigrant families had moved into the area with a substantial number of these being Greek nationals. It was their children who were present in substantial numbers in the two grade levels used. The Greek children had some beginning facility with the English language.

The sample consisted of 49 kindergarten children, 21 boys and 28 girls from one morning and one afternoon class taught by the same female teacher. The 54 first grade students, 26 boys and 28 girls, were from two classes taught by two women.

The assigning of students to treatment conditions was accomplished by using a table of random numbers after dividing
the entire subject pool by grade level and sex with a further division of the grade one classes. Control for any differences in teacher effects was achieved by assigning equal numbers of students from each grade one class to each treatment condition. Table 1 presents the composition of the treatment groups within the design.

Table 1
Numbers of Subjects Classified by Treatment, Grade-level and Sex

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Grade-level</th>
<th>Sex</th>
<th>Number of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>Kindergarten</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Grade 1</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td>T₂</td>
<td>Kindergarten</td>
<td>Male</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Grade 1</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>15</td>
</tr>
</tbody>
</table>

Each discussion group consisted of 8 to 10 students with as nearly equal numbers of boys and girls as possible wherever their numbers in the respective classroom groups were not equally represented. These groups were randomly assigned to treatments.
Programme Procedures

The discussion groups were led for 15 minutes each for three mornings each week on Monday, Wednesday and Friday beginning at 9:30 a.m. The exceptions were the groups from the afternoon kindergarten class with discussion sessions beginning right after homeroom period shortly after 1:00 p.m.

The two treatments were administered by two female graduate students, one of whom was the researcher. The problem of administrator variance was recognized. Every effort was made by the researcher to conduct herself in a similar manner with each treatment group, showing the same degree of interest and attentiveness to all discussions and responding with the same degree of warmth. Both graduate students were thoroughly familiar with each of the programmes. Each conducted an equal number of both treatment programmes except for the groups formed by the afternoon kindergarten class. These were led by the researcher.

To ensure the anonymity of treatment group identities, teachers of the classes involved were told that, since significant learning was thought to occur through interaction, the researchers were attempting to examine several modes of discussion format for instructional purposes. The findings and the skills that proved most effective with the children were to be shared with staff (if there was an interest on the part of the staff in using the techniques.) Furthermore, the staff were aware of the principal's keen interest both in the
research and in having the school selected for the research site. Staff were requested not to ask the children about the nature or apparent purpose of the groups they were in.

All discussion sessions were conducted in a conference room, a small reading room or a vacant classroom depending upon availability.

The discussion sessions began in the first week of November after all arrangements had been made to secure approval for the use of the school and upon completion of pretesting. This treatment period was eighteen school weeks in length with an interruption for the Christmas holiday period. Some additional time was lost due to school closures for staff in-services and inclement weather. Discussion groups ended during the last week of March.

Treatment Procedures

Experimental Treatment (MHDP or T1)

The Methods in Human Development programme consists of a structured small group format as outlined in the Theory Manual (Bessell, 1973). The programme authors designed a circular seating arrangement of all participants to enhance the two-way verbal and nonverbal communication flow between teacher and students. The circle sessions focus upon the children's own experiences - their feelings and what affects these feelings; their capacity to affect the feelings and behavior of others both positively and negatively; their own behavior and the behavior of others as it is experienced by them. The
three sequential discussion themes are awareness, mastery and social interaction. Each of these themes was covered although time permitted only six weeks of each discussion theme (Units I, II and III).

Some deviations from the prescribed curriculum occurred. It was noted that activities could only be given three times weekly rather than daily as recommended. As a consequence some recurring activities had to be omitted while some related activities were combined. The other procedural recommendation which could not be followed was the length of each session - 15 minutes rather than the 20 minutes prescribed.

Both the time constraints and the experimental purpose of the programme did not permit the first grade children to experience either the children's choice activities (decision-making) as described in the curriculum guide or the child leadership activities. Other omissions included the lessons on reality and fantasy projections, responsibility and honesty.

Because these modifications had to be made the programme is identified as MHDP. A detailed listing of the actual lessons used appears in Appendices A and B.

**Level B: Kindergarten programme (Appendix A).**

The strategies utilized at the kindergarten level include encouragement to talk, to listen, to experience success in each activity, and to deal effectively with both negative and positive topics. Because a two-way movement of communication is the core of the programme, the Theory Manual (Bessell,
is most explicit about the children's acquisition of active listening skills through adult modelling and through positive reinforcement.

Specific objectives cited for the kindergarten programme are: to improve self-control and the ability to listen and to express oneself; to develop self-confidence in and understanding of social interaction; to develop a tolerance for individual differences; to emphasize common human traits; to increase self-acceptance; and to increase verbal expression and listening skills.

**Level 1: First grade programme (Appendix B).**

Like the kindergarten children, the first grade students also deal with positive and negative feelings, thoughts and behaviors, and acquire active listening skills through adult modelling and through positive reinforcement. In addition, these children discuss ambivalence in feelings and thoughts as well as behaviors having both positive and negative consequences. Effective and ineffective behavior are also examined.

Supplementing the objectives noted for the kindergarten programme, these additional objectives are included for the first grade level: effective self-control, the ability to experience comfortably the feelings of ambivalence, to meet needs effectively, to increase tolerance and empathy, and to improve skills in making helpful suggestions to others.

**Comparison Treatment (SAT or T2)**

The second treatment procedure utilized was Show-and-
Tell, a standby of many kindergarten and primary classrooms. It has no written curriculum guide and no clearly stated objectives. Handed on by word-of-mouth it appears to be used to promote skills in verbalizing, and to build self-confidence through a modest amount of student participation (in comparison to other discussion methods such as DUSO and the Bessell and Palomares programme). Having neither formal curriculum nor objectives, it is not a series of planned sequential activities, with one building upon the other.

It is usually conducted as a brief daily activity with perhaps five or six performers. Each child is allowed to take a turn in front of the class to display an article brought for the occasion, commenting upon it to his peers and teacher, as the name "Show-and-Tell" implies. In order to encourage further verbalization, the teacher and/or the class may question to elicit further comments from the child about the article's uses, why it is enjoyed or why it was selected. At the conclusion of the display the child is thanked for his contribution. This was the format used in the study.

Show-and-Tell was selected as a comparison treatment since it is a widely used discussion group method. No research was found in the literature which would substantiate or refute its value as an educational tool. In the writer's experience some teachers dismiss the HDP programme as being exactly the same as Show-and-Tell. However, the lack of a discussion structure which systematically teaches the elements of listening
and of two-way communication as well as the lack of a sequential content structure do appear to present substantial differences. How significant these differences are with respect to ego development in particular was to be examined in this study.

Testing Procedures

Pretesting using the six testing devices was conducted from the last week of September beginning with the videotaping of student responses to the Keister Puzzle Box. Upon completion of the videotaping procedure in the last week of October, teachers were asked to complete the Behavior Rating of Pupils. The Class Pictures, A Picture Game and The Story of Tommy were completed next. Posttesting began immediately at the conclusion of the treatment period in March lasting until the latter part of April with the same order of testing. The calculations on Grade Point Average (GPA) were computed as described under "Description of Instruments".

Statistical Procedures

This research problem was multivariate in nature involving the simultaneous investigation of multiple dependent variables. Therefore, a multivariate 2x2x2 (treatment-by-sex-by-grade-level) analysis of variance (MANOVA) was used to determine the effects of the independent variables upon the subject's responses (Bock and Haggard, 1968). In those factors where a significant multivariate F was found, univariate analyses followed for each of the dependent variables (Hummel and Sligo,
Multivariate analysis was more appropriate than separate univariate F-tests on each of the variables measured upon the same subjects since this form of analysis took into account the correlations among the dependent variables which would otherwise be inappropriately disregarded. This procedural choice was further supported by Gardner's recent review of literature on scale strength and selection of appropriate statistics (1975).

The MANOVA analysis used change scores derived by calculating the differences between post- and pre-measures for each of the dependent variables. The choice of analysis of gain or change scores rather than analysis of covariance procedures was supported by the discussion of this issue presented by Bock (1975).

All analyses were performed using the computer programme, Multivariance: Univariate and multivariate analyses of variance, covariance, and regression - Version V (MULTIVAR, Version 5)(Finn, 1974), maintained by the Educational Research Services Center, Faculty of Education, University of British Columbia.

SUMMARY

This chapter has presented the research design and sampling techniques, treatment, testing and statistical procedures.
CHAPTER V

RESULTS

Univariate and multivariate analysis of variance techniques were utilized in the analysis of data related to the eight hypotheses. In the multivariate analysis of variance, the effect of the treatment on all criterion measures was observed simultaneously, taking into account the correlations between these measures. The multivariate test considered the subject's responses to all measures as a single response, thus providing information about the total effect of the treatment. In those instances where the null hypothesis was rejected, univariate analyses of variance followed for each of the dependent variables.

The means and standard deviations of the change scores appear in Table 2. As noted in the discussion of statistical procedures in Chapter 4, the change scores represent the differences between post- and pretest results for each of the dependent variables. For each of these variables, with the exception of the teacher rating measure, a positive gain corresponds to growth. For the teacher rating the negative sign reflects growth; a negative value for the Behavior Rating of Pupils represents an actual reduction in the amount of negative classroom learning and social behavior observable to the teacher.

Inspection of Table 2 reveals both the relatively large
Table 2
Observed Cell Means and Standard Deviations:
Seven Dependent Variables

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Problem-Solving Time</th>
<th>GPA</th>
<th>Teacher Rating</th>
<th>Peer 'A' (Affiliation)</th>
<th>Peer 'B' (Observation)</th>
<th>Self-Rating</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1BK</td>
<td>13</td>
<td>0.843 (3.131)</td>
<td>-</td>
<td>-4.231 (5.231)</td>
<td>-1.385 (7.171)</td>
<td>4.154 (4.525)</td>
<td>-0.692</td>
<td>-</td>
</tr>
<tr>
<td>T2BK</td>
<td>8</td>
<td>2.944 (3.883)</td>
<td>-</td>
<td>-0.500 (3.464)</td>
<td>-0.375 (1.598)</td>
<td>-1.125 (5.284)</td>
<td>-3.625</td>
<td>-</td>
</tr>
<tr>
<td>T1BI</td>
<td>13</td>
<td>0.514 (0.901)</td>
<td>0.862 (1.028)</td>
<td>-1.00 (4.865)</td>
<td>0.385 (1.646)</td>
<td>1.538 (3.526)</td>
<td>3.00</td>
<td>3.485</td>
</tr>
<tr>
<td>T1BI</td>
<td>13</td>
<td>0.514 (0.901)</td>
<td>0.862 (1.028)</td>
<td>-1.00 (4.865)</td>
<td>0.385 (1.646)</td>
<td>1.538 (3.526)</td>
<td>3.00</td>
<td>3.485</td>
</tr>
<tr>
<td>T1GI</td>
<td>12</td>
<td>-0.449 (3.651)</td>
<td>-</td>
<td>-9.083 (6.775)</td>
<td>0.333 (2.741)</td>
<td>3.833 (5.132)</td>
<td>2.50</td>
<td>-</td>
</tr>
<tr>
<td>T1GI</td>
<td>13</td>
<td>0.334 (4.564)</td>
<td>0.077 (1.226)</td>
<td>-0.308 (3.794)</td>
<td>-1.125 (2.386)</td>
<td>1.308 (4.516)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>T2BI</td>
<td>13</td>
<td>-0.124 (1.195)</td>
<td>0.269 (0.568)</td>
<td>-0.846 (6.581)</td>
<td>0.077 (2.900)</td>
<td>0.615 (5.881)</td>
<td>0.077</td>
<td>4.432</td>
</tr>
<tr>
<td>T2GI</td>
<td>16</td>
<td>1.052 (1.589)</td>
<td>-</td>
<td>-0.063 (4.823)</td>
<td>1.313 (3.239)</td>
<td>1.00 (5.046)</td>
<td>-1.313</td>
<td>-</td>
</tr>
<tr>
<td>T2GI</td>
<td>15</td>
<td>0.072 (1.462)</td>
<td>0.653 (1.011)</td>
<td>0.067 (6.808)</td>
<td>-0.267 (3.239)</td>
<td>0.867 (7.453)</td>
<td>-1.333</td>
<td>7.155</td>
</tr>
</tbody>
</table>

Note: GPA and Security Scores collected for Grade One students only

*Numbers in parentheses are standard deviations*

T1 = MHDH  B = Boys  K = Kindergarten
T2 = SAT    G = Girls  1 = Grade One

72
increases in means in the teacher rating measure for kinder-
garten students in the MHDP treatment groups and the Peer 'B' rating which measures peer observation of socially positive or neutral behavior in the same groups.

The balance of the results are presented below with hypotheses pertaining to the independent variables or factors presented first.

Hypothesis 1. Mean change scores are not significantly greater for MHDP groups than mean change scores for SAT groups for treatment main effects on five dependent variables: persistence time in mature problem-solving behavior (Keister Puzzle Box); teacher rating of dysfunctional social and learning behavior (Behavior Rating of Pupils); peer nomination for observed positive or neutral behavior (Peer 'B'); peer selection for personal affiliation (Peer 'A'); self-perception of the dominant emotional response to life (A Picture Game).

Table 3 presents MANOVA results along with the followup univariate tests. These results indicate that there was a significant treatment effect ($p < .003$) which can be accounted for by the changes in the teacher behavior rating and the Peer 'B' rating, both measures of social competency related to overt social behavior.

For the teacher rating, the observed combined means for MHDP and SAT groups were -3.549 and -0.289 respectively. These scores revealed that children in the MHDP groups demonstrated less dysfunctional behavior as observed by the teachers. The corresponding combined means for the peer perception
Table 3
Multivariate Analysis of Variance
Effects of Treatment, Sex, and Grade-Level Upon Five Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>Multivariate Test F (df)</th>
<th>Degrees of Freedom</th>
<th>Univariate F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Problem-Solving Time</td>
</tr>
<tr>
<td>Treatment</td>
<td>3.8601* (5, 91)</td>
<td>1</td>
<td>1.3053</td>
</tr>
<tr>
<td>Sex</td>
<td>0.4415 (5, 91)</td>
<td>1</td>
<td>0.6025</td>
</tr>
<tr>
<td>Grade-Level</td>
<td>1.9751 (5, 91)</td>
<td>1</td>
<td>1.3042</td>
</tr>
<tr>
<td>T x S</td>
<td>0.9371 (5, 91)</td>
<td>1</td>
<td>0.2152</td>
</tr>
<tr>
<td>T x G</td>
<td>3.6680* (5, 91)</td>
<td>1</td>
<td>2.2571</td>
</tr>
<tr>
<td>S x G</td>
<td>1.0313 (5, 91)</td>
<td>1</td>
<td>3.0749</td>
</tr>
<tr>
<td>T x S x G</td>
<td>0.4870 (5, 91)</td>
<td>1</td>
<td>0.5807</td>
</tr>
<tr>
<td>Within</td>
<td></td>
<td>95</td>
<td>102</td>
</tr>
</tbody>
</table>

Within
Total

*P < .05
measure, Peer 'B', were 2.686 and 0.538. These scores indicate a concomitant increase for the MHDP participants in the amount of positive or neutral behavior observed by peers.

Hypothesis 2. For first grade subjects, mean change scores are not significantly greater for the MHDP groups than for SAT groups for treatment main effects on two dependent variables: school achievement (GPA) and independent security (The Story of Tommy).

The multivariate analyses corresponding to Hypothesis 2 are summarized in Table 4. These analyses revealed no significant differences. Therefore, research Hypothesis 2 is not rejected. Mean change scores for first grade subjects for treatment effects of the MHDP programme on academic achievement and independent security were not statistically different from mean change scores for the comparison treatment group.

Hypothesis 3. There is no significant difference between males and females on each of the criterion measures.

As hypothesized, the multivariate analyses for the second independent variable, sex, did not show significant differences with either group of dependent variables (see Tables 3 and 4). Therefore, Hypothesis 3 is not rejected: significant differences between males and females on each of the criterion measures were not found.
Table 4
Multivariate Analysis of Variance: Effects of Treatment and Sex on Two Dependent Variables (Grade One)

<table>
<thead>
<tr>
<th></th>
<th>Multivariate Test F (df)</th>
<th>Degrees of Freedom</th>
<th>GPA</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>0.0571 (2, 49)</td>
<td>1</td>
<td>0.005</td>
<td>0.1161</td>
</tr>
<tr>
<td>Sex</td>
<td>2.4313 (2, 49)</td>
<td>1</td>
<td>0.4464</td>
<td>4.797</td>
</tr>
<tr>
<td>T x S</td>
<td>2.478 (2, 49)</td>
<td>1</td>
<td>4.6938</td>
<td>0.7410</td>
</tr>
<tr>
<td>Within</td>
<td></td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis 4. There is no significant difference between kindergarten and first grade pupils on each of the criterion measures.

As hypothesized, the multivariate analyses for the third independent variable, grade-level, revealed no significant differences between grades (Table 3). Therefore, Hypothesis 4 was accepted: grade-level did not have a significant effect on each of the criterion measures.

Hypothesis 5. Differences in mean change scores between MHDP and SAT groups for males are not significantly different from mean change scores between MHDP and SAT groups for females on each of the criterion measures.

From Tables 3 and 4, the multivariate analyses of treatment interactions with sex failed to reveal significant differences. The null hypothesis was accepted. There was no significant interaction between treatment and sex.

Hypothesis 6. Differences in mean change scores between MHDP and SAT groups for kindergarten pupils are not significantly different from mean change scores between MHDP and SAT groups for first grade subjects on each of the criterion measures.

Examination of Table 3 reveals a significant multivariate F ratio for the interaction effect of treatment with grade-level (F (5, 91) = 3.688, p < .005). Therefore, the null hypothesis was rejected. Followup univariate tests of the
dependent variables to determine which variable is contributing to the significant multivariate $F$ showed a significant $F$ ratio for only one of the dependent variables, the teacher behavior rating ($F (1, 95) = 7.528, p < .0073$). Examination of the combined means for the interactions revealed that the mean gain for the MHDP kindergarten group (6.559) was greater than the mean gain for the MHDP first grade group (.654), whereas for the SAT groups the mean gains were more nearly comparable (.208 and .357 respectively). Speculation about the causes of such manifest treatment differences will be reserved for the following chapter.

Hypothesis 7. Differences in mean change scores between males and females in kindergarten are not significantly different from mean change scores for males and females in first grade on each of the criterion measures.

A significant difference was not revealed in the multivariate analysis of interaction between sex and grade-level. Therefore, the null hypothesis was accepted (Table 3). There is no significant interaction between sex and grade-level of subjects.

Hypothesis 8. Differences in mean change scores between MHDP and SAT groups for males and females in kindergarten are not significantly different from mean change scores between MHDP and SAT groups for males and females in first grade on each of the criterion measures.
The final multivariate analysis was for the possible interaction effects for treatment, sex and grade-level upon the five dependent variables. Table 3 reveals no significant differences. Therefore, the null hypothesis was accepted.

The implications of these findings will be discussed in the concluding chapter.

Additional Data

Additional data was available which can be used to supplement the results reported earlier in this chapter. This data related to the problem-solving measure, the Keister Puzzle Box, and the peer affiliation measure, Peer 'B'. The results will be presented in that order.

Two kinds of data were obtained from the Keister Puzzle Box. Firstly, posttest results for the puzzle revealed a small increase in the numbers of subjects from the MHDP group who successfully completed the puzzle. At the kindergarten level there were five MHDP participants with correct solutions out of a total of 25 subjects (as compared to two on the pretest) while at the first grade level there were two solutions out of a total 26 participants (as compared to none on the pretest). This pattern did not hold for the SAT participants. There were no correct solutions for the kindergarten subjects (one on the pretest out of 24 subjects in total) and one correct solution at the first grade level (one on the pretest out of 28 subjects).

Secondly, the nature of the behavioral responses made by the subjects to the Keister Puzzle were unexpectedly
diverse. Rather than the very narrow categorization of the behavior as "mature" or "immature", it became apparent that the test provided a remarkable opportunity to sample a broader range of the child's behavioral repertoire - eg. approach-avoidance of the task; cognitive flexibility-rigidity.

Several samples of the behavioral protocols which illustrate the diverse kinds of data available are included (see Appendix D).

The implications of these findings will be discussed in a later section "Recommendations for Further Research".

Examination of the posttest results of the Peer 'B' measure, The Class Pictures, revealed that in each of the four MHDP groups (N = 51) there were no longer any social isolates. Each child received at least one nomination for personal affiliation. This was not true for the SAT groups (N = 52) at either grade level.

**SUMMARY**

This chapter has presented the results of the multivariate analyses of variance of the data. Eight hypotheses were tested for the two parts of the study. Hypotheses 1 through 4 were related to the three independent variables - treatment, sex and grade-level. Hypotheses 5 through 8 pertained to interactions. Univariate analyses of variance followed significant multivariate F ratios in order to determine which dependent variables contributed to the effect.
The first hypothesis examined the effects of treatment on five criterion measures. A significant multivariate $F$ ratio was obtained leading to rejection of the null hypothesis. Mean change scores were significantly greater for MHDP groups than for SAT groups. Two of the criterion measures, the teacher Behavior Rating of Pupils and Peer 'B' (peer perception of positive or neutral behavior), were significant as noted by their univariate $F$ values. Hypothesis 2 concerning treatment main effects on the first grade criterion measures, GPA and independent security, was accepted: there were no differences between the treatment groups. Hypotheses 3 and 4, the assessments of sex and grade-level effects, were likewise accepted. There were no significant differences between males and females nor between kindergarten and first grade pupils on each of the criterion variables. Interaction hypotheses, Hypothesis 5, treatment-by-sex, Hypothesis 7, sex-by-grade-level, and Hypothesis 8, treatment-by-sex-by-grade-level, were accepted. A significant multivariate $F$ ratio was found for the interaction between treatment and grade-level, Hypothesis 6, with those differences accounted for only at the kindergarten level.
CHAPTER VI

DISCUSSION AND SUMMARY

The results presented in the previous chapter provided some support for asserting that the Methods in Human Development programme did promote functional competencies related to ego development. Specifically, that capability was social competence.

This chapter will present a discussion of the results for each hypothesis, some informal data, limitations of the study, as well as recommendations for further research.

Conclusions

Hypothesis 1: Treatment Effects

The first hypothesis examined treatment effects on five criterion measures: time spent in mature problem-solving behavior; teacher rating of dysfunctional behavior; peer rating for positive or neutral behavior; peer selection for interpersonal affiliation; self-rating of emotional response to life. A statistically significant multivariate $F$ value was observed for treatment main effects at the .003 level.

Univariate analyses revealed that two of the five criterion measures were contributing to the effect: the teacher behavior rating, significant at the .0035 level, and the Peer 'B' rating which was significant at the .004 level of probability. Both ratings measured social and learning behavior.
clearly observable to classmates and teacher. It was apparent that more positive changes in the overt conduct of MHDP participants were being discerned by teacher and peers. Thus, these results complement each other.

However, the treatment groups were clearly not differentiated from each other with respect to any of the remaining criterion measures: time spent in mature problem-solving behavior, peer selection for personal affiliation; self-perception of the dominant emotional response to life.

In summary, two of the three social competency measures—those relating to overt social and learning behavior—were significantly influenced by the MHDP programme, while the third, selection for peer affiliation, was not. More detailed discussion of these results is indicated.

**Problem-Solving Behavior.** The univariate analysis failed to reveal a difference in the treatment groups with respect to problem-solving behavior. In the previous discussion on "Additional Data" in Chapter 5, there were some non-significant differences in favor of the MHDP groups with respect to the number of correct puzzle solutions.

The problems presented by the instrument itself are discussed under "Limitations of the Study" (see p. 94).

**Results of the Three Social Competency Measures.** The importance of positive overt social functioning was highlighted in the conclusions reached by Kohlberg et al (1972) in their review of the longitudinal research previously discussed in
Chapter 2. Their study showed that a severe childhood pattern of antisocial behavior was the single most powerful predictor of later adjustment problems of any childhood behavior examined. Their review suggested that distortions in the child's ego development and in his relationship to his environment were the necessary conditions for the relative frequency of the appearance of antisocial behavior in adulthood. Predictably, this age-developmental trait operated toward a decline in such behavior with increase in age (Robins, 1966; Field, 1969; Glueck and Glueck, 1959). Positive functioning was found to be the better predictor of successful adult adjustment.

"... We can predict that almost no children who are free of antisocial behavior will become antisocial adults" (Kohlberg et al, 1972, p. 1249).

In the light of their findings, the importance of the results from this study with respect to the fostering of such positive overt social behavior can hardly be over-estimated. A programme which can foster such positive social functioning in such relatively brief time has potential as a psychoeducational preventive intervention.

More detailed comments on the results of the instrument for teacher perception of behavior will be reserved for discussion of Hypothesis 6, treatment-by-grade-level interaction.

The third criterion measure of social competency, peer affiliation, apparently was not affected significantly by treatment. The children participating in the MHDP programme
were not chosen more frequently for entry into interpersonal relationships. Despite the substantial focus within the MHDP programme of assisting children to attain interpersonal competencies, the results of this study did not support the claims of the programme in this particular area. It was assumed that participation in this programme would have provided the children with accurate knowledge about the power each child had to affect the emotionality of others and to discern accurately the nature of friendly behavior, since these were topics in the discussion groups. Apparently, the MHDP children were not able to retrieve and put to active use that knowledge in a consistent way.

As discussed earlier in Chapter 4, examination of the data for the measure of peer affiliation, however, did bring to light additional information. In the posttest results for the groups of children participating in the MHDP programme, all children received at least one nomination for affiliation. Although the results were not statistically significant, there were no longer any social isolates. This was not true for the control groups. It may be inferred that the children in the MHDP groups did seem to have demonstrated some grasp of the principles involved in interpersonal relationships. Inspection of the means in Table 2 revealed, too, that the kindergarten MHDP groups showed a trend for greater gain even though the children were not as popular initially judging by the frequency of selection on the pretest.
Several research findings had suggested the importance of peer acceptance and social competence to the child both with respect to the present use of his abilities and as a predictor of later positive functioning (Kohlberg et al., 1972; Lippitt and Gold, 1959; Schmuck, 1963, 1966; B. White, 1971). Havighurst, Bowman, Liddle, Matthews and Pierce (1962) found that peer acceptance was almost a guarantee of the absence of later adjustment difficulties while rejected children tended to improve in interpersonal skills over time (an anticipated pattern since this is an age-developmental-adaptational trait).

Further Discussion of the Results of the Social Competency Measures. The apparent failure of the MHDP programme to produce statistically significant results with one of the social competency measures may be explained by several factors.

Firstly, the time for the lessons may have been too short to allow for greater impact upon the relevant skills. Forty-five minutes each week for a six week period is a relatively brief time allotment for the unit on social interaction.

Secondly, the results may be indicative of the somewhat inadequate nature of the sociometric device used (see "Limitations of the Study").

Thirdly, there may have been other factors in operation. For example, informal observations of the children's social preferences on the playground and in class revealed considerable fluctuations in social groupings. On a number of occasions it was observed that some of the less popular children were able to "buy" their way into play groups by sharing candy or
a toy with the others. The manner in which the treat was shared was not the more easy manner in which the true social equals behaved. This observation seems to conform to the findings of Sells, Roff, Cox and Mayer (1967) who found that sociometric rank was a momentary rather than a particularly stable variable except for the extremes of sociometric status. It was these extremes in repeated observations which were useful predictors of later functioning. Over a four-year period of observing the same individuals, a moderately stable picture evolved with positive peer-choice scores being more stable than negative peer-choice scores.

As a concluding remark, the positive results for two out of three criterion measures relating to social mastery, as well as some indication of reduced isolation are evidence to support the conclusion that the Bessell and Palomares programme does increase skill in this vital area of functioning. It is through these improvements that the Bessell and Palomares programme can be said to contribute to the social development and mastery of the children.

Kohlberg et al (1972) found that affective traits (which were not related to current developmental and situational factors) were not as noticeable in the treatment groups with respect to the self-perception measures of the emotional response to life as happy or sad. Self-Rating Measure. This study did not reveal any difference in the treatment groups with respect to the self-perception measures of the emotional response to life as happy or sad. Kohlberg et al (1972) found that affective traits (which were not related to current developmental and situational factors) were not as noticeable in the treatment groups with respect to the self-perception measures of the emotional response to life as happy or sad.
that moods change; the emotion felt today does not clearly relate to the emotion felt yesterday, but very basic patterns persist as suggested by the temperamental patterns found by Thomas, Chess, and Birch (1968). Selection of this particular measure may have been too closely tied to the predominant mood of the child, a genetically-linked trait and, therefore, not as amenable to change.

The review of literature did indicate the relationship between cognition and affectivity. These early school years were shown by Kohlberg and his colleagues to be a critical period in, for example, formation of attitudes toward learning and a sense of competence. It would be reasonable, therefore, to predict that affectivity will be influenced positively or negatively by any educational intervention. The MHDP intervention should do so, given the emphasis upon an affective component and upon a sense of mastery. The quality of that change should be detected by some instrument even if this did not. Perhaps part of the reason for the paucity of results is that the test, A Picture Game, although the best available, may not have been adequate. The low reliabilities reported (see p. 60) for the test suggest poor discriminatory power. Other possible measures might include a self-concept measure, or an instrument to detect the capability for differentiated expression of affect, and/or a measure of the child's capability for accurate detection of an emotional state in others. Any of these might have been more useful measures related to affect
Hypothesis 2: Treatment Effects

The second hypothesis examined treatment effects for first grade pupils only on two criterion measures: academic performance and feelings of independent security. The results were not significant: the null hypothesis was accepted.

Security Measure. While the activities provided within the programme are designed to permit each student to experience success, the participants in the Bessell and Palomares programme apparently did not have greater feelings of independent security as measured by The Story of Tommy than the SAT participants. It is important at this point to recall the nature of the omissions in the first grade programme. The curriculum which had to be deleted because of time restrictions included the child leadership activities and the decision-making experiences. Each of these should have had a bearing upon the development of feelings of independence. It may be that a longer programme and the inclusion of these first grade experiences would produce significant results in this affective area.

Academic Achievement. The second criterion measure, school achievement, depends to a considerable degree upon a cognitive component. It is this area of development which would be least amenable to a short-term treatment such as this.

In summarizing the results for the first two hypotheses relating to treatment main effects, it is apparent that the
social competency measures, teacher and peer perception of the child's behavior (Behavior Rating of Pupils and The Class Pictures), were indicative of the effects of the MHDP treatment upon this aspect of ego development. Those measures related to cognitive and emotional competence were not influenced by treatment.

**Hypothesis 3: Sex Effects**

The subject's sex as an independent variable did not affect the criterion measures. This hypothesis was sustained.

**Hypothesis 4: Grade-level Effects**

This hypothesis that grade-level would not have a significant effect upon the criterion measures was sustained.

**Hypothesis 5: Treatment-by-Sex**

The hypothesis relating to interaction effects between treatment and sex was supported since significant multivariate F ratios were not evident.

**Hypothesis 6: Treatment-by-Grade-level**

This hypothesis examined interactions between treatment and grade-level. With a multivariate F value significant at the .005 level, the null hypothesis was rejected. Further inspection of the univariate F ratios revealed the source of that significance: the teacher behavior rating measure ($p < .007$).

Examination of the observed combined means revealed that the mean gain for the MHDP kindergarten group (6.559) was
greater than the mean gain for the MHDP first grade group (.65).

While the univariate F for the Peer 'B' rating was no longer significant, the same directional change in the observed combined means for the MHDP groups at the kindergarten level was apparent (3.999 as compared to 1.423 for the first grade MHDP group).

There are at least two possible explanations for this phenomenon. The first relates to the developmental level of the kindergarten (5-year-old) child; the second relates to some of the major goals of instruction in kindergarten.

The developmental stage of the child suggests two answers. One relates to the characteristics of the typical 5-year-old who is described as being pre-moral and self-centered, as viewing abstractions in personal terms rather than in relation to standards, and as being open to his experiences (Bessell, 1973). The second explanation involves the transition state in which the child finds himself. He has just started a new experience - his school career - and he must accommodate to the demands of this new situation. Both the child's developmental status and his transition state make him more accessible to an intervention. A programme designed to suit his developmental needs offered at this critical period should be readily assimilated. Hence, there is the greater effect of the Bessell and Palomares programme in creating the outward behavior change.
Another explanation for the interaction between treatment and grade-level relates to instructional goals. In kindergarten the child is taught systematically attending and other learning appropriate behavior. All his attempts at positive adaptation to the learning situation and in the discrimination of learning cues are rewarded by the school environment.

Vygotsky (1962) offered yet another explanation which might account for the results. Appropriateness of curriculum and timing were suggested by the following description: "The only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe but at the ripening functions..." (p. 104). It may be that the curriculum of the MHDP programme is at an optimum level of complexity for the kindergarten child. It is aimed at the ripening functions. It happens to align with the teacher's goals, as well. This may account for the decrease in overt negative social and learning behaviors discernible to the teacher, and for the increase in positive or neutral behaviors seen by peers.

Because the Bessell and Palomares programme is developmental, the omissions in the first grade programme (leadership activities, decision-making, responsibility and honesty, and reality and fantasy), may have mitigated against similar results for the grade one pupils.

**Hypothesis 7: Sex-by-Grade-level**

This hypothesis examined the interactions of treatment,
sex and grade-level. It was accepted since no statistically significant interactions existed.

**Hypothesis 8: Treatment-by-Sex-by-Grade-level**

This hypothesis examined the interactions of treatment, sex and grade-level. No statistically significant interactions were found. Therefore, the hypothesis was accepted.

**Additional Findings**

Many of these findings have been discussed within the context of the relevant hypotheses as supplementary data.

One of the important findings of the study was the unexpected opportunity provided by the standardized problem-solving situation, the Keister Puzzle Box, to sample a very broad range of the child's behavioral repertoire. Information on both the temperamental and the cognitive style of the child was readily available (e.g., approach-avoidance of the task, independence-dependence, cognitive flexibility-rigidity). The potential value of recording these types of observations will be discussed under "Recommendations for Further Research".

A very accurate, beautifully poetic summary of the overall responses of the children to the puzzle is provided by Murphy (1962).

For one child to whom newness has progressively brought new satisfactions, a strange new experience arouses fantasies of new opportunities and potential fun; for another strangeness brings potential ogres in its shadows. For still another, strangeness is simply a question mark, something to discover; this child will let strangeness have a fair chance. He allows it to show its colors; he does not prejudge it. One child may march forward, ready to beard a lion in his den if need be, while another skips into newness as if it carried
a rainbow's promise of a pot of gold. Still another is transfixed and immobilized, seemingly hypnotized by inscrutable forces in strangeness itself (p. 193).

Limitations of the Study

There were several limitations to the study. One was possible experimenter effect since the researcher also carried out some of the treatment procedures.

Another centered on the curriculum deletions at the first grade-level made necessary by time limitations. The omission of some key experiences (e.g., leadership activities and decision-making activities) with the first grade subjects may have been a contributing factor in the paucity of results with this group as well. The results in total would suggest the merit of testing the full programme at the first grade level.

Yet another problem was the difficulty in finding good instruments capable of measuring the wide range of developing abilities in young children in the behavioral, affective and other areas. Lack of appropriate instrumentation for use with young children has been noted by B. White (1971) and Caldwell (1970). Instruments to provide a more comprehensive picture of a wide range of the child's developing abilities simply were not available.

The instruments finally selected or developed also presented limitations. For example, the Puzzle Box yielded good data but it might have yielded more supporting data had it been used to measure other relevant behavioral categories: cognitive style, approach or avoidance of the task, sociability or non-
sociability, manifest affectivity, tempo, activity level, and independence versus dependence. The bipolar categorization into "mature" and "immature" responses may have been too narrow. Within the scope of this study, it was not possible to verify that mature and immature behavior as described were sufficiently comprehensive.

As shown in Chapter 4, the reliability estimates for the sociometric measures were either not available or of modest size. Consequently, three such measures were used. A plausible explanation for the results, particularly for the peer affiliation measure, may lie in the instruments themselves.

An additional problem resulted from selection of GPA as a criterion measure. There is considerable variability in grading practices between different teachers and in intrarater variance from one reporting period to the next. This is to be expected since some aspects of grading appear to depend upon subjective criteria.

Recommendations for Further Research

Empirical support for areas of the study would suggest the merit of additional research. Some of these have been proposed within the context of the discussion of results for each hypothesis. Certainly a more longitudinal research programme including greater numbers of children and extending over the primary grades with the full programme would be indicated to determine its effectiveness in reducing emotional, behavioral and learning problems, and in increasing competency.
More thorough examination of the programme's effects upon other aspects of ego development should be tested, particularly its effects upon the maturation of affective functioning and ego-ideal. Other types of affective measures which could be related more directly to some goals of the programme might be included. The HDP programme places an emphasis upon emotional self-understanding and upon understanding the emotional responses of others. Development of another type of instrument capable of yielding data on the child's ability to detect accurately the emotionality of others, for example, might be a more useful measure.

A new important area for study would be indicated by the fortuitous if unexpected finding on the potential value of the structured test situation, the Keister Puzzle Box. This instrument appeared to yield much objective data on both the cognitive style and the temperamental pattern or behavioral style of the child as discussed in the review of literature. It would appear to be possible to record accurately, objectively and rapidly, the child-environment transactions over the relatively brief testing situation. Additional research needs to be done to confirm the value of the test as a potential diagnostic device on the behavioral and cognitive styles of the child.

These last findings in particular have some implications for the elementary school counsellor. They may have even greater implications from a primary preventive stand-point.
One of the major functions of the elementary counsellor is to serve as a consultant to the teacher and the parent on the child's developmental status. In that capacity, the counsellor could gather the developmental data for about fifty children in four to five days using this instrument. The behavioral information on each child would form the basis for joint educational planning with the teacher. It would be possible, for example, to design interventions immediately for those groups identified as "risk" groups. These groups of children are those most prone to making maladaptive responses to certain environmental features. The joint planning by teacher and counsellor would make certain that these features were removed or modified in such a way as to allow the identified "risk" children not only to adjust more smoothly to school but also to have a more nearly optimal beginning in achieving mastery in learning.

This data on developmental status could also be shared with the parents in order to assist them in responding to and in dealing with their children more effectively. The considerable amount of research on child development tends not to be used in a systematic way both in identifying the developmental stage of the child and in planning educational and parenting activities to promote the acquisition of those competencies which would appear next in the sequence. Such activities would actuate the kind of instruction Vygotsky described as aimed at the ripening functions.
An area worthy of future research is the investigation of the impact of teaching primary preventive strategies such as the Bessell and Palomares programme upon the teacher. There has been some research which revealed the hazards of over-sensitizing teaching staff to student deficit. A Vancouver study (Nichol, 1968) revealed that increasing the threshold of teacher perception of student disabilities and problems by over-zealous mental hygienists produced a diminution of the teachers' sense of professional capabilities. By emphasizing the development and identification of competence in children, the Bessell and Palomares programme may enhance a sense of professional competence in teachers as well. The influence of the programme upon teacher self-concept and sense of professional worth may be an interesting one to explore.

In conclusion, more longitudinal research was suggested on the full Bessell and Palomares programme, particularly the first grade programme, to determine its effectiveness in promoting competencies related to other aspects of ego development and in reducing emotional, behavioral and learning problems. Research on the potential diagnostic value of the structured test, the Keister Puzzle Box, was proposed as well. Finally, research on the effects of teaching primary preventive strategies such as this programme upon the teacher's self-concept and sense of professional competence was recommended.
SUMMARY

The study sought to determine the effects of a programme, the Bessell and Palomares Methods in Human Development, upon cognitive performance, social and emotional competencies - all affiliated with ego strength, positive self-development, and mental health. The results confirmed the programme's effectiveness upon some criterion measures related to ego development, those associated with overt social functioning.

Hypothesis 1 on treatment main effects upon the aggregate of five criterion measures was accepted. Univariate analyses revealed that two of these measures, the teacher rating, the Behavior Rating of Pupils, and the peer perception measure, The Class Pictures, contributed to the significant F ratio. Both measures were associated with social competence. While neither sex nor grade-level affected the criterion measures, a significant interaction effect between grade-level and treatment was found for one measure of social competence, the Behavior Rating of Pupils. This was found at the kindergarten level only. Cognitive performance and affective competencies were apparently not influenced significantly by the treatment. Additional supporting data, while not significant, provided further evidence seeming to substantiate the programme's impact upon the development of social competence.

The results presented lend support for the programme's use and for more extensive research. The evidence suggested the value of the Methods in Human Development programme as a
primary preventive intervention in promoting basic competencies indicative of positive self-development and a state of mental health.
LITERATURE CITED


Anastasi, A. Heredity, environment and the question "How?" *Psychological Review*, 1958, 65, 197-208. (b)


Koch, R., & Koch, J. We can do more to prevent the tragedy of retarded children. *Psychology Today, 1976, 10, 88-93.*


Robins, L. *Deviant children grown up*. Baltimore: Williams & Wilkins, 1966.


Wynn, A., & Wynn, M. The right of every child to health care (France). In C. Blakeslee, E. McLeod, A. Shell, & B. Hicks, *A fiscal analysis of 24 hour care for children in Manitoba*. Winnipeg: Management Committee of Cabinet, 1974. (a)

Wynn, A., & Wynn, M. The protection of maternity and infancy (Finland). In C. Blakeslee, E. McLeod, A. Shell, & B. Hicks, *A fiscal analysis of 24 hour care for children in Manitoba*. Winnipeg: Management Committee of Cabinet, 1974. (b)


APPENDICES
APPENDIX A

METHODS IN HUMAN DEVELOPMENT
CURRICULUM, KINDERGARTEN, LEVEL B
KINDERGARTEN ACTIVITIES AS USED IN THE STUDY

Unit I  Six Weeks on Awareness: Feelings, Thoughts and Behavior

Week I - Pleasant Feelings

Monday - Having Good Feelings.
The teacher discusses briefly with the children how everyone has good feelings and bad feelings. She tells the children that the discussion is on telling each other about the good feelings we have about something that is in the classroom. Briefly, she explains how some article in the classroom helps her in some way and tells how she feels about it. The children are invited to ask questions about the article or make comments on it.

After the teacher's turn is completed, she asks the children to think of some object in the classroom that gives them a good feeling. The children are invited to take a turn as each child feels ready to describe and/or name the object telling how it is helpful to that individual and how he/she feels about it.

The teacher explains that everyone will get a turn if they want one. Only one person will talk at a time in the session because all of us want to hear what each child wishes to tell us. That is how a circle session works.

As the child volunteers some open-ended statement is made such as "Can you describe or name the object?" Each child is also asked, "Tell us about the feeling you get when you (look at it or use it)." Each child is thanked for participating, using his name.

The children are asked to notice that some children feel good about one thing and others about something else. This is discussed in a very matter-of-fact manner. In this way, the teacher demonstrates and fosters open acceptance of the child's choice and of his feelings. By doing this daily, the children begin to accept and respect individual differences as being normal and natural.
Once or twice during the session and at its close, the group is asked to review what feelings were reported and what object was selected by each child. Appreciation is expressed by the teacher for the positive aspects of their behavior in the session, especially for listening to each other. Each child who did not get a chance to participate this time is thanked for being in the circle being acknowledged by name. The teacher makes a comment about the possibility of their willingness to participate next time.

Wednesday - Having Good Feelings.
This is a continuation of the previous day's activity with the same format and structure used. The modelling and expression of appreciation for their efforts, for attendance and for listening is repeated as before.

Friday - Having Good Feelings.
The same activity is repeated today.

Week 2 - Pleasant Thoughts.

Monday - Having Pleasant Thoughts.
The children demonstrate their own pleasant thought by making the object thought about in clay.

Wednesday - Having Pleasant Thoughts.
Each child may guess what pleasant but unknown object is in a box.

Friday - Having Pleasant Thoughts.
A picture is shown of a child who is apparently experiencing pleasure and is thereby thinking a pleasant thought. The picture acts as a stimulus for discussion.

Week 3 - Positive Behavior

Monday - Performance of Positive Behavior.
The child does something that is nice for another child in the group by giving him a candy.

Wednesday - Performance of Positive Behavior.
Continuation of positive behavioral sequences by giving each child the opportunity to mend
a broken crayon with masking tape.

Friday - Performance of Positive Behavior.
Each child has the opportunity to make a belt or string of beads.

Week 4 - Pleasant Feelings

A repetition of the first week's activities. There is a continuation of an emphasis upon eliciting self-expression by each child; upon developing listening skills; upon the recognition that people have similarities and differences in regard to the kinds of pleasant feelings they have about things; upon expansion of identification with other people. The teacher continues to give acceptance and recognition to each child and continues to model listening behavior.

Week 5 - Pleasant Thoughts

A repetition of the second week's activities. There is a continuing emphasis upon self-expression about these thoughts; upon developing listening skills; upon the fact that people have similarities and differences in their thoughts; upon broadening the base of awareness and the area of expressive application. There is a promotion of a sense of identification and belongingness in the human family. The teacher continues to model effective leadership behavior: acceptance, reflection, recognition and listening.

Week 6 - Positive Behavior

A repetition of the third week's activities. Awareness of positive behavior is promoted through behavioral enactment. While each child performs a "nice behavior", the teacher accompanies the act with a descriptive commentary. The emphasis is upon doing: A child learns by doing. The principal focus is to establish a behavioral sequence serving as a prototype for verbal recognition that positive behavior is occurring. Each child performs a behavioral sequence which is productive and utilitarian. In so doing successfully, the child learns to perceive himself as capable.
Unit II  Six Weeks on Mastery

Week 7 - Mastery in Language

Monday - What Does The Word Mean?
Each child is encouraged to tell of a word he knows or likes and explains something he knows about it. By recognizing the child's effort and by stressing "you can ..." the child gains a feeling of self-confidence. Approval intensifies his positive motivational strivings.

Wednesday- What Is It Used For and How Do You Use It?
The prior activity is continued. Each child has the opportunity to demonstrate comprehension. The principal objectives are promotion of a sense of positive motivation and a sense of self-confidence. Language development is a secondary purpose.

Friday - Why Is It Good For Us?
The children are told that everything we make or use has at least one reason for having been made. The activity today focuses upon talk about things that are good for us, for fun or for work with the teacher providing at least one example in each category to orient the children more clearly as to expectation.

Week 8 - Mastery in Quantitative Concepts and Mastery of the Concept Two

Monday - Counting and the Concepts of More and Less.
Two jars are presented by the teacher, one with many beads (or other objects) and one with two objects. Each child is invited to tell which has more and which has less. The children are then invited to count the numbers of objects in the jar having less (two). Teacher behavior remains the same, with an emphasis upon recognition to increase his self-confidence.

Similar experiences to those engaged in on Monday provided. The emphasis remains upon increasing the child's self-confidence through a sense of mastery in each of the concepts.
Friday - Mastery of the Concepts of None, Three, Four and Five.
Similar counting activities are undertaken.

Week 9 - Mastery in Fine Motor Coordination

Monday - Stringing One-quarter Inch Beads.
Each child is given the opportunity to string 10 beads on a shoelace. Upon completion he is recognized for his success. Some discussion of the general usefulness of the manipulation of small objects follows with the children encouraged to present their ideas first.

Wednesday - Tying and Untying a Knot.
A demonstration of tying and untying a knot with a thick string is given. Each child is encouraged to try with minimal aid if necessary, followed by recognition for being able. Some discussion of the usefulness of the skills follows with the children again encouraged to present their ideas first.

Friday - Threading a Large Needle.
A demonstration of threading a large-eyed needle with thick thread is given followed by inviting each child to try. Successful performance is recognized and is followed by a discussion of the usefulness of the skill.

Week 10 - Mastery in Performance Skills

Monday - Putting Something Away and Retrieving It.
The teacher discusses the utility of putting things away and the value of being able to find them later when needed. Each child is given the opportunity to put an object away. When all have completed the task, each later retrieves his object. Recognition in the form of praise for successful retrieval is given.

Wednesday - Cooperation in Assembling a Box With Tape.
A pre-cut unassembled box of sturdy construction paper whose four sides can be folded up and taped to make a box with open top is readied for each child. The teacher tells the children it is both useful and fun to be able to make things yourself. It is also fun to cooperate in making things together.
Although it is not always easy to do, she is sure that they can all make boxes by helping each other. Each child can keep a box he has helped to make. The teacher demonstrates making the box with one of the more able children. The children select each other for the activity and the activity is repeated until everyone has a box. The pairs are praised immediately upon completion of the box. Further discussion is solicited about the possible use to which each box will be put and upon the advantages of cooperation.

Friday - Cooperation in Hole Punching and Fastening Small Note Pads. Children are shown the materials; many sheets of small uniform size paper, a box of metal paper fasteners, and a hole puncher which is easy to use. Each object is named and, using one child as an assistant, a small note pad is made. The pairs of children again perform the task with each child given sufficient opportunity to practice each phase of the activity until he has acquired some proficiency in performance. Each pair of children is praised upon successful completion of the task. Discussion is invited upon some of the things which the children know must be made by people working together.

Week 11 - Mastery in Personal Hygiene

Monday - Learning about Food. The importance of good food for the body is discussed with regard to how it makes us feel good and how it is good for us. Each child is encouraged to eat and oatmeal and raisin cookie or a piece of fruit and to show why he thinks it is good for him - that it relieves his hunger and how it helps him to grow healthy and strong. Each child is thanked for his contribution.

Wednesday- Learning About Taking Care of Ourselves. The children are encouraged to participate in a discussion about the mouth, nose and ears, on the importance of their care and why random, unclean objects are never put in them. Each child is praised for his contribution to the discussion.
Friday - A Way to Help Avoid Colds.  
The discussion focuses on germs, and how they cause diseases, like the cold as well as how easily germs are spread through sneezing, coughing and contact with unwashed hands. The teacher demonstrates the use of a tissue and each child is invited to give a demonstration also. Discussion is then solicited on how colds can be avoided with each child invited to tell one thing that can be done to keep from catching a cold.

Week 12 - Mastery in Social Comprehension

Monday - You Can Make Him Feel Good.  
Again the game is demonstrated by the teacher guessing how she could make one child feel good. Each child is invited to follow suit.

Wednesday - Can You Guess What He's Afraid Of?  
Children get the opportunity to learn that everyone has fears. As children volunteer for guessing by thinking of an object he is afraid of. Emphasis is on the children developing a sensitive feeling so that they can assist each other to overcome fears.

Friday - Can You Guess What His Wish Is?  
After the teacher demonstrates several of her wishes which are comprehensible to the children, the children may volunteer to be "it" while each of the other children guess what the child might be wishing for. Teacher comments on how they are all getting to know each other better.

Unit III Six Weeks on Social Interaction

Week 13 - How Other People's Behavior Affects Me

Monday - What Did Someone Do That You Disliked?  
The notion that it is not possible for people to live together without bothering each other is discussed. This happens because no one can have each individual's feelings, nor is it possible to know beforehand what will or will not bother the other person. The teacher illustrates by telling something that someone did which
had bothered her. She then invites the children to follow her example. These are dealt with as an analysis of an interpersonal event by providing a neutral, non-moralizing analysis offending no one and maligning neither the other person nor the child. Rather it is dwelt upon as a fact that this is what can and does happen in life.

Wednesday - What Did Someone Do That You Disliked? A continuation of the previous day's activity so that each child gets a turn. Again the teacher reminds the children that these incidents occur mainly because the other person does not know exactly how we are feeling. It is also pointed out that sometimes a child or other person may deliberately try to make us feel badly because that individual thinks he is not liked enough but that this behavior changes once he learns how to be nice and to get people to like him better.

Friday - What Did Someone Do For Me That I Liked? This continuation of the week's activity examines the positive effect of another person's behavior on the individual. The teacher demonstrates with a real personal example and shares why the effect of the behavior was liked. She then asks the children to share their positive experiences with the others. Discussion follows as customary.

Week 14 - How My Behavior Affects Others

Monday - Can You Show What You Did That Someone Liked? Two or more children arrange a demonstration in which they play roles portraying a situation in which the lead child did something that earned another's approval. The principal child plays himself in the dramatization and he coaches the other child in the role of the recipient. The focus is upon the relationship between having done something for someone and receiving approval for it.
Wednesday - Can You Show What You Did That Someone Liked?
A continuation of the dramatizations so that all children get a turn.

Friday - Can You Show What You Did That Someone Disliked?
Several children separately arrange demonstrations one after another, inviting one or more other children to portray assigned roles in the event. The teacher helps each child to set up and direct the dramatization of his event. At the conclusion of each enactment the teacher comments on the relationship between having done something which causes another to feel badly and of which they therefore disapprove.

Week 15 - Learning to Offer Kind Behavior

Monday - What Could I Do For You?
The teacher informs children about needs. She also comments that rather than guessing about what we might be able to do for another that would make them feel good, there is a better way to find out by asking. The teacher demonstrates with a child. After the sequence is performed, she asks the child if this did make him feel good. She then invites the others to participate similarly. Each request must be easy and possible to fulfill immediately and it must be possible for the child granting the help to either want to, or, not mind much in doing it. Praise is given for their understanding, cooperation and their kind behavior to each other.

Wednesday - What Could I Do For You?
Continuation with the previous day's activity.

Friday - What Could I Do For You?
As for the two previous days.

Week 16 - Learning to Ask for Kind Behavior

Monday - What You Could Do For Me.
Needs are again discussed with the teacher reminding the children that people need things from each other from time to time. What was now needed was practice in asking
another person to do something for us that is nice. The teacher also tells the children that most people are afraid to ask for something they need until they have some practice. A demonstration follows with children invited to participate.

Wednesday - What You Could Do for Me.
A continuation of Monday's activity. The teacher provides a running commentary stressing the basic idea that one of the best ways of receiving kind treatment from others is simply to let the other person know what you need.

Friday - What You Could Do For Me.
As before making sure that every child can play the game and also is asked for kind behavior.
APPENDIX B

METHODS IN HUMAN DEVELOPMENT

CURRICULUM, FIRST GRADE, LEVEL 1
The same rules for discussion and listening as outlined in the Kindergarten Activities are used. Modelling and reinforcement principles are continued as well.

Unit I  Six Weeks on Awareness: Feelings, Thoughts, and Behavior (Simple and Mixed)

Week 1 - Pleasant Feelings and Unpleasant Feelings
  Monday - Having Good Feelings
  Wednesday- Having Nice Feelings and Bad Feelings, Too
  Friday - I Felt Good and Bad About Something

Week 2 - Pleasant Thoughts and Unpleasant Thoughts
  Monday - Having Nice Thoughts
  Wednesday- Having A Nice Thought and a Bad Thought
  Friday - I Had a Nice Thought and a Bad Thought About Something

Week 3 - Positive Behavior and Negative Behavior
  Monday - Positive Behavior
  Wednesday- Negative Behavior
  Friday - Positive and Negative Aspects of Given Behavior

Week 4 - Having Mixed Feelings About Something
  Monday - Having Mixed Feelings About Something
  Wednesday- What I Like and Dislike About School
  Friday - What I Like and Dislike About the Way I Do Things

Week 5 - Having Mixed Thoughts About Something
  Monday - Thinking of Something Nice That You Would
  Wednesday- I Had a Bad Thought
  Friday - I Thought of Something Bad in One Way, Good in Another
Week 6 - Positive and Negative Aspects of Given Behaviors
   Monday - Positive and Negative Aspects of Given Behavior
   Wednesday - Something Happened, Good For Me and Bad For Me
   Friday - Something Happened, Good For Me and Bad For Someone Else

Unit II Six Weeks on Mastery: Self-confidence, Self-sufficiency and Effectiveness

Week 7 - Mastery in Language
   Monday - What Does the Word Mean?
   Wednesday - What Is It Used For and How Do You Use It?
   Friday - Why Is It Good For Us?

Week 8 - Mastery in Math Skills
   Monday - Bead Counting
   Wednesday - Adding Beads
   Friday - Counting and Adding

Week 9 - My Powers To Be and Do
   Monday - Energy Is The Ability To Work
   Wednesday - Self-control Is the Power To Not Do Something That You Can Do
   Friday - Having Many Kinds of Self-control

Week 10 - I Can Do Things For Myself
   Monday - Things About Dressing I Can Do For Myself
   Wednesday - Some Things At School That I Can Do For Myself
   Friday - Something I'm Very Proud That I Can Do By Myself

Week 11 - How I Got What I Needed
   Monday - I Was Able to Get What I Needed
Wednesday - I Couldn’t Get What I Needed
Friday - How I Got What I Needed

Week 12 - How I Got Into Trouble
Monday - I Didn’t Know I’d Get Into Trouble
Wednesday - I Knew I’d Get Into Trouble If I Did It
Friday - Somebody Got Me Into Trouble

Unit III Six Weeks on Social Understanding: How People Affect Each Other

Week 13 - Getting and Giving Approval
Monday - I Did Something That Somebody Liked
Wednesday - Somebody Did Something That I Liked
Friday - We Did Something For Each Other

Week 14 - Getting and Giving Disapproval
Monday - Somebody Did Something That I Did Not Like
Wednesday - I Did Something That Somebody Did Not Like
Friday - We Each Did Something The Other Did Not Like

Week 15 - Giving and Earning Approval For Kind Behavior
Monday - What Could I Do For You?
Wednesday - What You Could Do For Me
Friday - Commitment Review

Week 16 - Getting Attention
Monday - How I Got Somebody To Pay Attention To Me
Wednesday - How Somebody Got Me To Give Them Attention
Friday - How I Felt When I Did Not Get Attention
Week 17 - I Can Make You Feel Good or Bad

Monday - How I Can Make You Feel Good

Wednesday - I Can Make You Feel Good Or Bad

Friday - I Can Make You Feel Good Or Bad

Week 18 - Being Included or Excluded

Monday - Somebody Let Me Play; Somebody Did Not Let Me Play

Wednesday - I Let Somebody Play; Somebody Let Me Play

Friday - We Made Room For One More
APPENDIX C

ADMINISTRATION OF TESTS, DEFINITIONS OF IMMATURE AND MATURE BEHAVIORS ON THE KEISTER PUZZLE BOX, KEISTER RATING SHEET, AND COPIES OF TESTS
Administration of Tests

Directions for Administration of the Keister Puzzle Box

The child is welcomed and allowed to become familiar with the room and with the videotape equipment. The equipment in particular is shown carefully. Each child is encouraged to look through the camera viewfinder and is told that he can see himself briefly in a few moments on the television monitor in the room.

"Today you can play a game. You can try to solve a puzzle and while you do that, I am going to videotape you so that I can look at how you tried to do the puzzle. Would you like to see yourself on T.V.? Here, let me show you."

A brief taping of the child while he looks at the equipment and talks to the tester is made (approximately 10 - 15 seconds). This taping is played back for him and he is allowed to talk about it (approximately 2 minutes). If the child has other questions about the functioning of the equipment, these are answered briefly and simply.

The child is seated at a small low primary table and the tester sits next to him, near enough to display the Puzzle Box and its contents without crowding the child.

"I am going to show you the Puzzle Box now. I am going to unlatch the lid and open it up. Inside the box are different wooden shapes all brightly painted. See the sailboat and the house? (The child is allowed to look at the contents for 5 seconds.) You can see how all the pieces fit flat into the bottom of the box and I can close and latch the lid like this. Now I am going to turn the box upside down and dump all the shapes onto the table like this. You can try to put all the pieces back into the box in just a minute. (The empty box is placed with the bottom of the box into which the puzzle pieces are put, nearest the child.) See if you can put all the pieces back into the box so that they will lie flat, too. You have 12 minutes. You may start now."

At 2 minutes: "You are doing fine." If the child appears nervous, encouragement is given. "Try the puzzle. Let me see you try. I think you can do it."

At 4 minutes: "You are really doing well." If the child appears discouraged because of the difficulty, the following comment is made: "I like the way you try. See if you can put another piece in."
At 6 minutes: "You certainly try hard. You have 6 minutes left. See if you can get another piece in."

At 9 minutes: "You have 3 minutes left."

At 12 minutes: "You may stop now."

The child is thanked for coming and is taken back to his classroom.
Definitions of Immature and Mature Responses

Immature Responses

The following behaviors have been described by Keister (1937) as immature or undesirable in terms of the Puzzle Box Test.

1. Retreat from the task, or giving up almost at once without exploring many of the possibilities of solutions: (For the puzzle box test allow 5 minutes, on the assumption that it is obvious to the child that there are a number of ways of going at the problem and he could not be exploring them all if he tried for less than 5 minutes.)

2. Repeated and numerous requests for help: ...if the child requests help for more than one-half of the total time of the test, i.e. 6 minutes.

3. Manifestations of destructive behavior with intent to harm the objects or persons connected with the difficulty.

4. Rationalizing: Not more than two rationalizations given during the 12 minute experimental period.

5. Exaggerated emotional responses, such as crying, sulking, yelling and/or motor manifestations of anger.

Mature Responses

The following behaviors were identified by the researcher as mature behaviors in terms of puzzle-solving behavior on the Puzzle Box Test.

1. Attempts to solve alone without verbal or non-verbal expressions indicating any request for help; persistence which shows involvement in continuing with the problem (e.g. putting the puzzle pieces in the box, or taking them out to rearrange their position; apparently engaged in thinking of alternate strategies for resolution of the problem.
2. Displays interest in puzzle as gauged by an animated facial expression or by subject's examination of space in box or of the pieces, perhaps manipulating the puzzle pieces in the air preparatory to placing in box.

3. Talks in a friendly way while continuing in efforts to solve puzzle.

4. No emotional manifestations but efforts directed at solution.
<table>
<thead>
<tr>
<th>Behavior</th>
<th>Minutes</th>
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<tr>
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<td>1</td>
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<tr>
<td>No overt attempt</td>
<td></td>
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<tr>
<td>Attempts to solve alone</td>
<td></td>
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<tr>
<td>Asks another to solve</td>
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<tr>
<td>Asks for help</td>
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<tr>
<td>Destructive behavior</td>
<td></td>
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<tr>
<td>Rationalizes</td>
<td></td>
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<tr>
<td>Displays interest in puzzle</td>
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<td>No emotional manifestations</td>
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<td>Sulks</td>
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<td>Cries</td>
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<td>Whines</td>
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<td>Yells</td>
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<tr>
<td>Motor manifestations of anger</td>
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<tr>
<td>Talks in friendly way while attempting to solve</td>
<td></td>
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<tr>
<td>Solves puzzle</td>
<td></td>
</tr>
</tbody>
</table>
**Note to the Teacher**

One of the most important and useful kinds of information obtained by the school is the teacher's professional judgment of children's behavior. Teachers see children over a period of time in a variety of situations, in stress situations, in work, and in play. The teacher's observation and judgment have been sharpened by his professional training and day-to-day experience with the normal behavior of children. Often the teacher's rating can be the single most useful index of a pupil's growth and development.

Few professional persons, no matter how well trained, can make ratings of others with absolute certainty and complete comfort. Don't spend too much time worrying about whether your rating for a particular child is "right" or "wrong." Make your best judgment of each student and go on to the next.

As you will see, these ratings are made in a way somewhat different from any you might have done before. The instructions on the inside of this folder will explain how to proceed.

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INSTRUCTIONS

1. Copy the names of all your pupils in the appropriate spaces on the right-hand edge of the inside back cover so that all names will be visible to you when you make your ratings.

2. There are eight narrow pages, each with a pyramid grid and a one-sentence description of behavior. Your rating job on each of these eight pages is to locate every pupil in your class on a scale that runs from “most like” the pupil described to “least like” him.

   Let us use the first narrow page as an example. The statement below the pyramid (Statement A) reads: This pupil gets into fights or quarrels with other pupils. Look at your list of pupils and identify those who you think are most like the pupil referred to in the statement. You will note there are only two boxes at the extreme right of the pyramid (Column 7) on the narrow page. Choose the two pupils who are most like the pupil in the statement and write their names in the boxes in Column 7 of the pyramid, one name to a box.

   Now, look at your list of students and identify those who are least like the pupil in Statement A below the pyramid. Choose the two pupils who are least like the pupil in the statement and write their names in the boxes in Column 1 of the pyramid, one name to a box.

3. Now, return to your list of students and again identify from the remaining students those who are most like the pupil mentioned in the statement. These will be pupils who show this behavior to a great degree but not to the extreme found in the two pupils listed in Column 7. Write their names in the boxes of Column 6 of the pyramid.

4. Again, return to your list of pupils and identify other pupils who are least like the pupil mentioned in the statement on the bottom of the page. These will be pupils who show this behavior to a very slight degree but somewhat more than the two in Column 1. Place their names in the boxes of Column 2 of the pyramid. Continue in this manner until all names have been used.

5. When you have completed the ratings, you should have on the right pupils most like the pupil in the statement, and on the left those who are least like the pupil in the statement. For example, for the first statement, pupils who seldom, if ever, fight or quarrel will be in columns on the left side of the paper and pupils who fight or quarrel quite a lot (or at least enough to be noticed by you) will be on the right side. The pupils who are average or “not extreme in either direction” with respect to the described behavior will fall into the larger middle categories.

6. Use the boxes shown with dotted lines only if you have a large class and find you do not have enough spaces for all your students. Be sure that each pupil’s name is placed in only one box. Some teachers check off names on the class list with light pencil marks to keep track of names used.

7. Try your best to complete the boxes in Columns 1 and 7 first, Columns 2 and 6 second, and in Columns 3 and 5 last. If you cannot completely fill these columns, use dashes to indicate that the boxes have not been overlooked or omitted. Some teachers who have small classes or insufficient contact with some children may find it necessary to omit names in several of the boxes. If you feel uncertain about placing a child near either extreme of the rating scale, place his name in the middle column, Column 4. When you have completed the ratings, the name of every child in your class should be found in one of the boxes in one of the seven columns of the pyramid. Unused boxes should have dashes in them.

8. When you finish with your rating on the first statement of behavior, go on to the others, repeating the procedure just described. Complete your ratings on all eight statements of behavior—rating every pupil in your class on every statement—before you undertake the scoring.
A. This pupil gets into fights or quarrels with other pupils more often than others.
B. This pupil has to be coaxed or forced to work or play with other pupils. He or she will actively avoid having any contact with classmates.
C. This pupil has difficulty in learning school subjects.
D. This pupil makes unusual or inappropriate responses during normal school activities. His behavior is unpredictable.
E. This pupil works extremely hard in learning school subjects to the exclusion of any other interests or activities. This pupil pours all his energies into school work.
F. This pupil behaves in ways which are dangerous to self or others. This pupil will get into situations in which he or she may be hurt or frightened.
G. This pupil is unhappy or depressed. He or she may cry easily, be inattentive, or daydream.
H. This pupil becomes upset or sick often, especially when faced with a difficult school problem or situation.
After you have completed each of the behavior ratings, enter under the correct letter the number of the column in which you placed each pupil's name. When you have finished entering the numbers (and have checked them to be sure), add the eight numbers for each pupil and enter the total.

<table>
<thead>
<tr>
<th>Name of Pupil</th>
<th>Sex</th>
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**EXAMPLE:**

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<th>Column</th>
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<th>B</th>
<th>C</th>
<th>D</th>
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**STATEMENTS OF BEHAVIOR**
The Class Pictures (Peer Rating—Kindergarten to Grade 3)

Description

After you have completed the Behavior Rating of Pupils, your next step in screening is to plan for administration of the peer ratings. The peer rating instrument for kindergarten and primary grades, The Class Pictures, must be given to each child in your class individually, following the instructions given on page 8. This may take fifteen to twenty minutes of time for each child. Administration of The Class Pictures to the entire class, however, may be spread over a period of time—up to, but not exceeding, one month.

Administer the instrument to children one at a time when the rest of the class is engaged in seat work of some kind or occupied in other activities which do not require constant supervision. Such a schedule will require a minimum of interruption in your regular teaching program. Read the instructions for administering and scoring The Class Pictures before you start. (See pages 8 and 9.)

The Class Pictures are composed of twelve picture cards with a total of twenty scoring items (one or two items on a card). Five of the items are pictures of boys in situations related to emotionally maladjusted behavior; five are pictures of girls in situations related to emotionally maladjusted behavior; five are pictures of boys in situations related to positive or neutral types of behavior; and five are pictures of girls in situations related to positive or neutral types of behavior.

The Class Pictures have been developed as a means of analyzing, in a systematic and measurable way, how children are perceived or "seen" by their peers. The responses of most pupils to the pictures will not surprise you. Some responses, however, may seem unrealistic and inappropriate. Accept each child's responses without comment unless the child obviously misunderstands directions. Your role during the administration of The Class Pictures is one of test proctor and recorder of responses.

The Class Pictures are used with children who have not yet learned to read or write well. Therefore, the responses of each child will need to be recorded individually by you. You will, of course, have to make special provision for the rest of the class while you are administering Class Pictures to individual children. If an additional school person is available, he may work with the class while you administer Class Pictures. The actual administration should always be done by you. If you are able to organize the class into working groups, Class Pictures may be administered to a few individuals daily during such work periods—but you will decide for yourself how best to accomplish this task.

On the test each child is asked to consider which of his classmates is most like the child in everyone of the twenty situations. Some children will pick twenty different names. Others may name one or two peers for several or many different items. Still others may make no response for one or more items (within the 15-second time limit set in the instructions for administering, page 8.) Do not expect any fixed pattern of responses.

When the responses for every child in the class are collected, the teacher can tally the number of times a particular child is chosen for each of the twenty pictures. The total number of times a child is chosen for all of the pictures indicates how clearly or how vividly he is "seen," or perceived, by his peers.

The number of times a pupil is picked for the ten negative pictures indicates the degree to which he or she is negatively perceived by his peers. By dividing the number of times a child is picked for the ten negative pictures by the total number of times he is picked for all twenty of the pictures, a per cent, indicating the ratio of negative perception by peers, is obtained and used in screening.

The mean or average number of negative selections of emotionally handicapped boys and girls has been found to be significantly different from the mean number of negative selections in the general school population of that grade and sex. Consequently, the per cent of negative perception has been found to be a reliable indicator of those children whose behavior, as observed by peers, indicates some degree of emotional difficulty. The higher the per cent, the greater the possibility that the child has emotional problems. The per cent of negative selections on The Class Pictures, when combined with teacher ratings and self ratings, has been found effective in primary grades for screening children with emotional handicaps.
Administration

In the administration of *The Class Pictures*, you should proceed in the following manner:

Announce to the class that they will be playing a game with some pictures in the next few days, and, since many boys and girls cannot as yet write very well, you will be playing the game with each child individually. Use a table other than your own desk and set it apart somewhat from the rest of the class. On the table or desk place a set of *The Class Pictures* and a pad of "Recording Forms for The Class Pictures." While the pictures are administered, the child should have his back toward the class so that the other children are not directly visible to him.

When the child is seated and ready to begin,

SAY: "I am going to show you pictures about school. In each picture you will see arrows pointing to children who will be acting as some children do in this class. I want you to look at each picture and tell me who in this class might act like the boy or girl in the picture. Use your imagination and try to think of someone in your class who might be acting like the boys and girls in these pictures. Now, let's try this one."

As the pupil gives you his choice, write the names of the children selected, in the spaces provided, making certain you write each name on the correct numbered line (line 1 for Arrow 1, and so on). If there is no response for a picture in an interval of 15 seconds, draw a line in that space and go on to the next arrow.

Pick up the first card (Arrow 1) and point to Arrow 1.

1. SAY: "Who could this be, sitting at his desk listening to the teacher?" Enter the name suggested, on line 1 of the recording sheet. Place the first card face down and turn over the second card.

Point to Arrow 2 and

2. SAY: "Who could this be talking to her friend while the teacher is explaining something to the class?" Record response. Place the second card face down and pick up the third card.

With the third card in hand, point to Arrow 3 and

3. SAY: "Who could this be having fun on the swings?" Record response. Place the third card face down and pick up the fourth card.

Point to Arrow 4 and

4. SAY: "Who could this be chasing this boy and trying to hit him?"

Place the fourth card face down and continue in this way with the rest of the cards.

5. "Who could this be, playing ball with the other children?"

6. "Who could this be, fighting with this other boy?"

7. "Who could this be, playing kick-ball with other children?"

8. "Who could this be, this unhappy child watching other children play?"

9. "Who could this be, carrying milk back to the class?"

10. "Who could this sick child be, in the nurse's office?"

11. "Who could this happy child be?"

12. "Who could this child be who is being brought to school by her mother?"

13. "Who could this be, playing on the bars?"

14. "Who could this child be who seems to have a stomach-ache?"

15. "Who could this be, walking along with her friends?"

16. "Who could this be, fighting with another child?"

17. "Who could this be, working quietly at the table?"

18. "Who could this be, playing with toys while the rest of the class is working?"

19. "Who could this be, playing tether-ball?"

20. "Who could this be, being told by the teacher not to do something?"
Modifications in Administration of

The Class Pictures

The basic procedures remained the same. As noted in Chapter 4, only the picture cards depicting positive or neutral behavior were displayed. These are the odd-numbered items. The total number of selections received by a child formed his score.
A Picture Game (Self Rating—Kindergarten to Grade 3)

Description

A Picture Game is designed to give a measure of young children's perception of self. It is used along with the Behavior Rating of Pupils (teacher rating) and The Class Pictures (peer rating) to identify pupils who are vulnerable to, or handicapped by, emotional problems.

A Picture Game consists of 66 pictures, including two sample pictures. Each picture is illustrative of normal home and school relationships and events. With the exception of the two sample cards and the first ten pictures, each picture is emotionally neutral in the portrayal of the relationship or event. The child is asked to sort each picture into one of two categories: "This is a happy picture" or "This is a sad picture." The sorting is done by placing each picture in the "happy" or "sad" side of a two-compartment box which has a happy face shown on one compartment and a sad face on the other. The child categorizes each picture in accordance with his perception of it.

The first ten pictures the child sorts are stereotypes: obviously happy or obviously sad situations. The purpose of including them in the test items is to check on each pupil's understanding of the task. If a child sorts the first ten pictures correctly, you can be fairly sure that he has understood the process well enough for you to use his score in screening. If, on the other hand, he does not sort the first ten pictures correctly, you will need to meet with him individually and ask him to sort the pictures again for you, making certain that he understands the process. Some children choose to place pictures differently from others. If you find that such children understand the process but continue, on re-administration, to sort the pictures in an independent fashion, make a note of it on the "Class Record Sheet," and use the child's score in screening.

A Picture Game can be administered to your class as a group by providing each child with the special two-compartment box and a set of pictures. There are separate forms of A Picture Game for boys and girls. The boys' form is printed on blue cards, contained in a blue box. The girls' form is on pink cards, contained in a pink box.

It should take about one half hour to administer A Picture Game to your class, including time for distribution and collection.
Administration

You should have enough pink boxes and sets of pink cards for each girl in your class and enough blue boxes and sets of blue cards for each boy. Distribute a box and a set of cards to each boy and girl along with small pieces of scratch paper on which they will write their names to put into their boxes when they have finished the game. You may, if you wish, distribute papers with the names already written on them. When all the children are ready, say to the class:

"We are going to play a picture game. Open your boxes. Notice that on the inside of the box cover there are two pictures. On the left is a picture of a sad boy or a sad girl. On the right, there is a picture of a happy boy or a happy girl. Each of you also has a set of picture cards. Girls have pink picture cards and pink boxes and boys have blue cards and blue boxes. Some of the pictures will seem sad to you and some of them will seem happy. You are to decide which are the sad pictures and which are the happy ones.

"Look at Picture A. Is that a happy picture or a sad picture? (Wait for class response.) Yes, that is a happy picture. Put it in the compartment under the happy face—at your right hand.

"Look at Picture B. Is that a happy picture or a sad picture? (Wait for class response.) Yes, that is a sad picture. Put it in the compartment under the sad face—at your left hand.

"The game is for you to look at all the pictures in your set and decide which ones are happy pictures and which are sad pictures.

"Place the sad pictures in the compartment under the picture of the sad boy or girl. Place the happy pictures in the compartment under the picture of the happy boy or girl. You will probably all choose different pictures as happy or sad. I expect that. Play the game by yourself and don't work with your neighbor.

"When you are finished with all the pictures, place the slip of paper with your name on it in one of the compartments; it does not matter which. Then close your box and wait for me to pick it up."

Collect the boxes one by one, as the children complete the task, and place them out of sight until class is dismissed for the day. When you are ready to score them, take your "Class Record Sheet for A Picture Game," and turn to the instructions for "Scoring."

Scoring

To score A Picture Game you will need "Class Record Sheet—A Picture Game" and all the boxes, into which the students sorted the picture cards. Complete the identifying information at the top of the "Class Record Sheet" and write the names of the boys and girls in the spaces provided. Note that boys and girls are listed separately. Next, count the number of cards in the "happy" compartment of the first pupil's box and record that number in the column headed "Total No. of Happy Pictures" on your "Class Record Sheet," opposite the pupil's name.

The first ten columns of the "Class Record Sheet" provide a check to see if a pupil has understood the instructions. When you have finished counting and recording the number of pictures the pupil has placed in the "happy" compartment, note where he placed each picture numbered one through ten (1-10). A child's placement of each of these ten pictures should correspond with the "H" (happy) or "S" (sad) at the top of the column on the "Class Record Sheet." "H" indicates that most children see the picture as happy; "S" indicates that most children see the picture as sad. Where a child's placement does not correspond with the "H" or "S" at the top of the column, place an "X" in that square. Put an "X" in every square where the pupil's choice disagrees with the selection indicated at the top of the column.

If a pupil has three or more "X's," there is a strong possibility that the child misunderstood the directions or cannot grasp the concepts of "happy" or "sad." In any case, the test should be re-administered with the instructions explained individually to the child. The fact that you have administered the test a second time should then be noted in the column under "Comments" and the number in the "Total No. of Happy Pictures" column should be that counted in the second administration.

The two sample cards, A and B, and the first ten cards, unlike the other cards, are supposed to be what an average child sees as "happy" or "sad." If a pupil sorts out cards A and B and the first ten pictures as most children do, you can be fairly confident that he understood how to take the test. But if he has three or more choices which disagree with the average choices indicated on the "Class Record Sheet," you should suspect that he has not sorted the rest of the pictures according to the instructions and you will need to give him individual help in a re-administration of A Picture Game.
THE STORY OF TOMMY

This is the story of Tommy. Tommy is about your age, he lives at home with his mother and father, he goes to school, he likes to play games, and now and then he has to make up his mind about things as they happen.

This story is also about you because we want to know what you would do if you were Tommy. Now in the story, each time that Tommy has to make up his mind what to do, he will have FOUR choices. After you read each of these four choices, pick out what you would choose first if YOU were Tommy, and then what you would choose second, third, and finally what you would choose last.

As you read the story, or the teacher reads the story out loud for you, and you come to a part where Tommy has to make up his mind what to do, you will stop and read the four choices first, and then write in the brackets the numbers 1, 2, 3 or 4 after each of the four choices, that is in the order that you would choose them if you were Tommy. Therefore, you will

write 1 after what you choose to do first .......................................................... ( 1 )
write 2 after what you choose to do second ......................................................... ( 2 )
write 3 after what you choose to do third ............................................................ ( 3 )
write 4 after what you choose to do last ............................................................. ( 4 )

Before you begin, you should know that there are no right or wrong answers. The only right choices are those that you would make if you were Tommy, and the order in which you make them from one to four.

Are you ready?

NOW TURN THE PAGE.
Tommy goes to school now. In the morning when Tommy gets up, he dresses and gets ready for school. This morning he was not able to find his other shoe. Tommy looked everywhere but he could not find it. He was afraid he might be late for school, and so he finally decided to:

- ask his mother to help him find his other shoe
- just wait in his room until his mother comes
- blame his sister for putting it in the wrong place
- wear his other pair of shoes that were in the closet

After breakfast, Tommy was off to school. He had his books under his arm but as he arrived at the school grounds, he found that he forgot his gym shoes. It was too late to run back home. Tommy thought about what he should do and at last decided to:

- take gym with only socks on
- hope the teacher would not notice he did not have his gym shoes
- expect that mother might remember to bring them at recess
- say that he does not feel well and miss the gym class

The school bell rang and the children began to enter the school. Tommy was going to his room and as he got to the door, he playfully grabbed Billy's cap and threw it in the air. It landed on the light shade and stayed there. Just then the teacher walked in. Tommy saw the teacher and he decided to:

- walk to his seat and hope the teacher did not really see him
- say it was Billy's fault because he was pushing
- ask the teacher if he could get the janitor to get the cap down
- tell the teacher he was sorry since she would understand
The teacher started the first lesson for the day. The children took out their reading books and some of the children were asked to stand up and read aloud. Johnny was the first to read. He was a very good reader and he made very few mistakes. Later it was Tommy's turn. Tommy was not able to read some words too well, and as the teacher tried to help Tommy with these words, he decided to:

- listen carefully so as to know how to say them the next time
- tell the teacher that he knows the words all right
- read more slowly so the teacher could help him with the hard words
- stop at every long word so the teacher would pronounce it

The next class was art. In Tommy's grade the teacher asked the children to draw a picture. Tommy is very good at art and the teacher usually shows Tommy's work to the class. As Tommy started on his drawing this morning, he decided he would:

- draw another horse since he can do this best
- draw a new picture which he had never drawn before
- wait to see what the other children started to draw
- ask the teacher to help him get started on something

At recess, most of the children in Tommy's class play tag. Freddie was "it" this time. After chasing some other children, Freddie started to chase Tommy. Tommy could also run pretty fast, but when he got near the fence he tripped. Freddie caught him and tagged him anyway, so now Tommy was "it." Tommy decided to:

- go and sit down and not play anymore
- just get up and start to chase someone else
- say it wasn't fair since he tripped and fell
- go and ask the teacher to settle it
The last class before lunch was arithmetic. Tommy likes number work although it gets pretty hard sometimes. This morning the class had some number work to do by themselves at their desks. Tommy got most of the questions but some were too hard. He was not sure what to do about the hard questions so he decided to:

- raise his hand to get help from the teacher
- sit quietly and not say anything
- leave the hard questions for the next day
- keep trying to figure out the hard questions by himself

At noon, Tommy goes home for lunch, and so does Larry who lives a few houses from Tommy. They usually go home together. On their way home, Tommy asked Larry if he would like to see his new bicycle. Since Larry rides a bicycle well, he said yes, and when they got to Tommy’s house, Larry asked Tommy if he could try out his new bicycle. Tommy decided to:

- let Larry have a short ride up and down the street
- say “No” because Larry might scratch his bicycle
- tell Larry that he has to ask his mother first
- tell Larry that his bicycle is too new

After lunch, Tommy went back to school. The class was having gym this afternoon, and this time Tommy did remember to bring his gym shoes. During gym, the children do exercises and play games. Also some of the children are allowed to play on the bars, and some even hang head down holding on by their knees. Tommy was not sure whether he should try this and finally decided to:

- just watch the others do it since it is dangerous
- maybe try it some other time
- climb up to the bar and try it himself
- ask the teacher to help him so he wouldn’t fall
After school, Tommy came right home because he had to go with his mother to the doctor. Tommy was going for a check-up, but he might be getting a needle as well. He did not want to go very much, so he decided to:

- go even if the needle does sting a bit
- say he feels quite well and does not need to see a doctor
- ask the doctor if his mother could come in with him
- try to get out of going this time

Tommy's father usually plays with him after supper, and this day he asked Tommy if he would like to play catch. Tommy quickly got his ball and glove and he and his father went out to the back yard. Tommy is just learning how to catch a ball, so sometimes he misses quite a few. This time Tommy was missing almost every catch. He was not too happy about this and after a while decided to:

- say that it must be the new glove that makes him drop the ball
- step closer to his father, so as to practice on short throws
- hope his father wouldn't be too angry at him
- ask his father again to show him how to catch the ball

After playing catch, Tommy had to go inside. Tommy played with his toys for a while, and then had to get ready for bed. He put on his pajamas, washed his face and hands, and brushed his teeth. Tommy has been taught to say his prayers before going to sleep. However, Tommy was pretty tired this night and thought he would:

- hope that nothing really bad will happen
- say his prayers because they are important to him
- say his prayers tomorrow night instead
- ask his mother to help him say his prayers this time

When Tommy was finished, he jumped into bed and soon was fast asleep. Tomorrow, Tommy was most probably going to have another busy day. And that is the end of the story.
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IS — Independent Security
IDS — Immature Dependent Security
DA — Deputy Agent
INS — Insecurity

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Total Y² = 120

Multiply by .14

Consistency Score

Percentile

Total Z

Multiply by 5

Divide by 12

100 minus

Security Score

Percentile
APPENDIX D

SAMPLE BEHAVIORAL PROTOCOLS

FROM KEISTER PUZZLE BOX
SAMPLE BEHAVIORAL PROTOCOLS FROM THE PUZZLE BOX TEST

Subject: Female, kindergarten

Begins immediately to pick up blocks with both hands and starts to talk. "Oh, this is fun!" Smiles, appears to enjoy herself. "I like puzzles. Do you have other puzzles, too?" Has box nearly filled and realizes that the sailboat will not fit. "Oh, this won't work." Grasps box with both hands, turns it upside down and starts again. Same speed of movements with hands and eyes, assessing the space available and the shapes left. "Oh, this is kinda hard, but it's fun." Continues with the same physical responses in order to solve. No slowing of pace, although stops momentarily for assessment and moves in chair occasionally. Uses both hands throughout and continues to talk in a friendly way at intervals - eg. "I have puzzles at home. Mine aren't made of wood. They're jig-saw puzzles." On being told that the time is up, she asks if she could come back another day to try again.

Subject: Male, kindergarten

Looks unhappily at examiner, moves in chair to sit sideways in order not to face desk or to see or touch puzzle. Looks at T.V. camera momentarily, then looks at floor. Seems to pout (lower lip juts out, corners of mouth turned down). Looks at examiner and pushes lips together so that corners of mouth turned down even more - glares for a moment in response to the invitation to try and looks away from examiner.
Negative affect continues though he looks at other objects, examines book shelves, but continues to sit on edge of chair, grasping chair with both arms and hands at his sides, held stiffly, still positioned away from puzzle. When spoken to again will not look at examiner nor will he respond verbally. When asked if he would rather leave to go back to class, nods head affirmatively, gets out of chair, continues looking down and moves directly to door, avoiding all contact on way back to class.

**Subject**: Male, first grade

When told he can begin, glances briefly at camera, then goes on to task. Leans forward, picks up a piece, places it in box and picks up another with slow, deliberate, steady movements. Solemn, intent look upon his face. Realizes last block won't fit without picking it up; moves some of the pieces around in the box in order to try to accomodate the block. Gauges space and positions block above into space, then lowers it and tries to push it in. "Hmmm, this is hard." Takes out all the blocks systematically placing them on the table. Re-examines shapes; solemn look on face remains. Totally absorbed; does not look up when a noise heard in hallway. Continues working methodically. Solves puzzle. Smiles broadly and looks at examiner without verbalizing. When asked if he had liked doing the puzzle, he smiles again, nodding head and says "Yes."
Subject: Female, first grade

Beginning by staring at puzzle for some time. Expression on face one of uncertainty, even apprehensive. Looks at examiner several times and, though says nothing, conveys feeling of wanting help. Directs attention again at puzzle pieces, selects one, the house, and very hesitantly places it in box, moving it into a corner. Takes hand away from block, hesitates leaving hand poised above it, looks at examiner; seems to seek approval or reassurance. Puts hand back on block and moves it tentatively to another corner, looks at examiner again. Stops. Body tensed, knees pressed together, other hand clenched in ball. Slowly moves block into middle of box. Stares at it, then looks at examiner and back again to the block. Picks up fish-shaped block from table, looks at it in her hand and very hesitantly puts it into box beside the house. Facial expression very unhappy, dejected, seems close to tears. Squeezes eyes shut. Test stopped.

Subject: Male, kindergarten

(Talks volubly from the time he leaves class, shows immediate interest in T.V. set and, after being promised he'll be shown how it works in greater detail after test, is ready to tackle puzzle.) Starts to move blocks rapidly into box using one hand to begin with but soon starts to use two as he pushes blocks into place. Moves vigorously, shaking and moving his chair and the table with his body movement. Stands up several times as he continues to work. Pleasant facial expression.
Talks constantly. Samples: "I got a new baby brother. You got any little boys? I'm not little anymore. Boy, look at this truck! (To himself) Hey, why won't this go in? This is hard." Stands up for a better look and decides instantly to empty the box and start over. "Do you come to school everyday like I do? Do you like school? What kinda car is this? You gotta car? My Dad's got a big Mercury. Oh, boy, I'm getting it now. But that won't go in. It won't work. Aah! (an expression of disgust)." Dumps box's contents again and starts over immediately. "It's hard but I'm gonna win. Did lotsa kids get this right?"