

HYPERACTIVE BEHAVIOR IN RELATION TO CHILDREN'S
PERCEPTIONS OF TEACHER'S CLASSROOM BEHAVIOR

By

DENNIS WAYNE PETER

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Department of Counselling Psychology

The University of British Columbia
2075 Wesbrook Place
Vancouver, Canada
V6T 1W5

Date August 4, 1981

ABSTRACT

This study sought to investigate the relationship between hyperactive behavior and children's perceptions of teachers. Particular attention was paid to two aspects of teacher behavior -- acceptance and demand.

An extensive literature review supported the position of viewing hyperactive behavior from an interactional perspective. In this study the context was the teacher-child interaction within the classroom as viewed by the child. The literature also indicated that children's behavior is affected by their perceptions of adult behavior. This study sought to examine this view in greater detail.

The sample consisted of 47 grade four boys and 45 grade five boys from eight regular classrooms in two schools, located in a major urban center in the interior of British Columbia. Children's perceptions of acceptance and demand of their teacher's behavior were measured by administering a partial form of the Teacher Behavior Questionnaire to classroom groups. Observed levels of hyperactive behavior were measured by having subjects' teachers complete the Conner's Abbreviated Questionnaire for each boy.

Using correlational analyses, hyperactive behavior was found to be significantly related to both variables in the directions of less perceived acceptance and greater perceived demand. Hyperactive behavior ratings allowed for a retrospectively identified teacher-rated hyperactive group and a teacher-

rated non-hyperactive group. On group comparison measures, hyperactive boys perceived significantly less acceptance and greater demand than their non-hyperactive peers.

In conclusion, hyperactive children perceive teacher behavior as less accepting and more demanding than their non-hyperactive peers. The variable of perceived acceptance appears more critical to positive teacher-child interaction than the demand variable. Individual teacher differences and cultural factors also appeared operative.

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CHAPTER I

Scope and Focus of the StudyBackground of the Study

Hyperactive behavior of children has been identified as the most common childhood behavior disorder presented to doctors, psychiatrists, teachers, and other related professionals, not to mention parents (Ney, 1974; Weiss and Hechtman, 1979). Laufer et al. (1956) are credited often for coining the label "hyperkinetic impulse disorder" and although their category is being officially revised as we enter the 1980's (Loney, 1980), its behavioral features have remained amazingly constant.

Problems in defining hyperactivity as a clinical entity (Loney, 1980) or in isolating a homogeneous group of truly "hyperactive" children (Langhorne and Loney, 1980; Ney, 1974, Sandberg et al., 1978) has led to the often noted research methodology of observer-identification (Keith, 1974) of the most commonly agreed upon symptoms. These include: excessive physical restlessness, short attention span, impulsivity, low frustration tolerance, and emotional lability. A further noteworthy direction points to the informant describing the hyperactive behavior as being most significant (Langhorne et al., 1976).

The proliferation of literature investigating hyperactivity is dominated by the search for etiology (Varga, 1979)

which has resulted in three major perspectives on the problem. Hyperactivity was first viewed as an attribute of the individual while later studies pointed to the child's environment and role in it as being causative. More recent research posits an interaction between the child's environment and the child's physio-psychological status (Lambert et al., 1978).

Recently, much emphasis has been given to the interactional model of hyperactivity as having the most promise of achieving better understanding of this problem (Stephenson, 1975; Thomas, 1976; Weiss and Hechtman, 1979). One trend of research closely related to this perspective views hyperactivity as a reaction by the child to subtle but powerful environmental dynamics (Hembling, 1978, 1980; Marwit and Stenner, 1972; Ney, 1974). These dynamics are operative at home and at school as the present investigation will explore. Studies of incidence (Firestone and Martin, 1979; Lambert et al., 1978; Stephenson, 1975) and studies of prevalence indicators demonstrate a predominantly higher male to female ratio of hyperactive behavior (Ney, 1974).

Another facet of the interactional position points to the situational specificity of the hyperactive behavior and the need to examine the child and the situation simultaneously (Conrad, 1977; Langhorne and Loney, 1976; Loney, 1980; Wahler, 1969; Whalen et al., 1978). Studies focusing on "situational hyperactivity" and, more specifically, the related social aspects of this difficulty emphasize the social inappropriate-

ness (Firestone and Martin, 1979), the social disadvantage (Sandberg et al., 1980), and the adult-child relationships (Routh, 1978 in Whalen and Henker, 1980) as being closely related to hyperactive behavior. The importance of investigating the social aspects of this problem is also emphasized most dramatically by the follow-up studies of hyperactive children (Ackerman et al., 1977; Cantwell, 1978; Morrison, 1980; Weiss et al., 1979) which demonstrate rather convincingly that despite the best efforts at diagnosis and treatment, this is a life-long disorder (Barkley, 1978).

A recurring theme, also evident in the follow-up studies, is the hyperactive child's relationship difficulties with authority figures. Studies focusing on the interactions between parents and hyperactive children (Bell, 1968; Bell and Harper, 1977; Cunningham and Barkley, 1979; Stevens-Long, 1973) point to a spiral of negative interaction characterized by high level expressions of annoyance, anger, and control by the parent with correspondingly little change in the child's behavior. Other investigators have found similar dynamics at work in families with hyperactive children (Barkley, 1978; Hembling, 1978; Ney, 1974). Inadequate management of anger within families has also been related to hyperactive behavior in children by Randall and Lomas (1978) and Miller (1977) and the present author postulates this as a significant teacher-child dynamic within the classroom.

Anger is an obvious contributor to perceived acceptance

or rejection and this interaction has been shown to be operative in studies examining hyperactivity as a reaction to a "social-emotional climate" (Ackerman et al., 1977; Ackerman et al., 1979; Sandberg et al., 1980). A wealth of evidence supporting hyperactivity as a reaction to a particular "social-emotional climate" is found in the relatively young discipline of child psychiatry (Neubauer, 1974). In particular, several researchers (Hembling, 1978; Miller, 1977; Weinberg et al., 1973; Yahraes, 1978; Zrull et al., 1978) demonstrate convincingly that hyperactivity is a common symptom of a reactive type of childhood depression which is best understood as an interaction within a parent-child relationship. The mismanagement of anger within this relationship eventually finds expression through the child's hyperactive behavior.

The present study assumes that the parent-child dynamics generalize to the teacher-child relationship. Cox (1972), Toman (1976), and Van Kaam (1977), likewise support the premise that the child will perceive the teacher as a surrogate parent and consequently will bring to the classroom a unique perceptual set that influences greatly the teacher-child interaction.

Studies of the interactions of teachers and hyperactive children have been mainly observational in methodology and have shown how the behavior of these children is typically in conflict with classroom routines and is particularly challenging for the classroom teacher (Ackerman et al., 1977;

Bowers, 1978; Conrad, 1977; Klein and Young, 1979; Zentall, 1980). The one study, discovered in a thorough literature search, which explored the teacher-child relationship from the hyperactive child's point of view (Loney et al., 1976), supported the child's unique and different perception as proposed in the present study. Further studies of hyperactive children in various settings involved in varying tasks (Flynn and Rapoport, 1976; Jacob et al., 1978; Steinkamp, 1980; Whalen et al., 1979) add more weight to the rather inflammatory dynamics of the relationship between the teacher and the hyperactively behaving child. Ackerman et al. (1977), Cunningham and Barkley (1979), Loney et al. (1976), Morrison (1980), Philips (1979), and Zrull et al. (1970) all lend more direct support for examining the degree of acceptance and the degree of demand perceived from the parent and the teacher by the child displaying varying levels of hyperactive behavior.

The need and importance for determining children's perceptions of the behavior of significant adults is based on the well established principle which states how parent behavior affects the child's development only to the extent in which the child perceives it. That the child's less experienced and less devious responses seem likely to be more accurate than the ratings by parents, teachers, or observers has been amply demonstrated by researchers (Ausubel, 1954; Gecas et al., 1970; Hembling, 1980; Loney et al., 1976; Rohner et al., 1980; Schaefer, 1965; Woyshner, 1979). The validity of children's

perceptions as being reliable sources of information about the behaviors of others has been further studied and supported (Campbell and Paulauskas, 1979; Lefkowitz and Tesiny, 1980; Whalen et al., 1979) and, the validity of hyperactive children's perceptions has also been well documented (Ackerman et al., 1979; Baxley et al., 1978; Campbell and Paulauskas, 1979; Loney, 1974; Paulauskas and Campbell, 1979).

Purposes of the Study

Previous research on hyperactive children has been characterized by a focus on the child's deficits, using clinical populations, and by searching for etiology. No hyperactive clinical entity or homogeneous subgroup has been isolated and a prominent current thrust uses strictly behavioral defining criteria such as the Abbreviated Conners Teacher Questionnaire, hereafter referred to as Teacher Inventory (see Chapter III). Another recent trend has been to explore the social situational aspects of this problem by using mainly observational methods to understand the hyperactively behaving child. The validity and importance of the child's point of view has been well documented although scant attention has been given to the perceptions of the child who behaves in a hyperactive manner. A purpose of this study was to gather information on the child's perception of two critical dimensions of teacher behavior (acceptance and demand), in a sample of boys enrolled in regular educational programs.

Children with behavior problems resembling the traditional pattern of hyperactive behavior may be reacting to their experience of a particular type of social-emotional climate. Boys in particular have been shown to receive higher levels of disapproval and control from parents and teachers, especially boys with behavior problems. A second purpose of this study was to compare the extent to which boys, rated by teachers as displaying varying levels of behavior attributed to hyperactivity, differed in their perceptions of teacher behavior.

Statement of the Problem

The present study measured the levels of observed behaviors attributed to hyperactivity of boys in grades four and five by means of a teacher questionnaire. The boys' perceptions of teacher behavior were then assessed with the use of a self-report questionnaire in order to investigate the relationship these variables have with levels of behavior attributed to hyperactivity.

Definition of Terms

Operational definitions of terms critical to this study follow.

1. Hyperactive behavior and other related terms, for the purposes of this investigation, refer to the commonly agreed upon behavioral patterns associated with the hyperactive child (physical restlessness, short attention span, impulsivity,

low frustration tolerance, and emotional lability). The Teacher Inventory (Conners, 1969; 1973) will be employed in the present study to assess the level of hyperactive behavior in subjects.

2. Perception(s) is used in a psychological sense rather than a physiological sense where the concern would be on the mechanisms and processes involved. The child's perception referred to in this study includes the personal meaning a particular situation has as he experiences it. This perception includes thinking and feeling functions as well as conscious and unconscious processes. The child's perception of teacher behavior will be assessed using the Teacher Behavior Questionnaire, hereafter referred to as Children's Inventory (see Chapter III).

3. Acceptance, as used in this investigation, refers to a degree of personal experience or meaning for a child resulting from his/her perceptions of the behavior of significant others. Acceptance is being used interchangeably for "loving" in this study and was measured by a cluster of five variables on the Children's Inventory (nurturance, affective reward, instrumental companionship, affiliative companionship and principled discipline).

4. Demand may be most easily understood as the degree of expectation from others which is perceived by the child. For purposes of this study it was assessed by combining (prescriptive, power, achievement demands, and indulgence) from the Children's Inventory.

Research Questions and Rationale

The following research questions were investigated in the present study:

1. Is there a significant correlation between observed levels of hyperactive behavior (measured by the Teacher Inventory) and perceptions of acceptance (measured by the "loving" dimension of the Children's Inventory)?
2. Is there a significant correlation between observed levels of hyperactive behavior and perceptions of demand (measured by the "demanding" dimension of the Children's Inventory)?
3. Is there a significant correlation between perceived acceptance (measured by the "loving" dimension of the Children's Inventory) and perceived demand (measured by the "demanding" dimension of the Children's Inventory)?

These research questions arose from some previous personal observations by the researcher and from an extensive exploration of other studies and related theory. As noted in the "background of the study", several prominent researchers have recently pointed to the need for examining the social aspects of hyperactive behavior while others have noted the importance of the adult-child relationship as a powerful influence on this behavior. In studying the adult-child interaction dynamics, some investigators have stressed the need for understanding the child's perceptions of the behavior of parents and teachers as significant adults, since this personal experience has proven to be a great influence on children's behavior, if not

a determinant. Children's experiences of anger, hostility and frustration from significant adults, who also exercise higher levels of control over them and demand toward them, has been closely linked to hyperactive behavior in the child. However, to date there is scant research investigating this dynamic from the child's point of view. This study was designed to explore some critical aspects of this neglected area of research.

Assumptions Underlying this Research

Teachers were asked to ascribe levels of behavior to boys in their classrooms based on their own observations of the children during the school year. Male subjects were chosen over females because of the higher incidence of hyperactive boys and on the basis of the assumption that observable behavior problems will be shown to vary in degree and frequency within any given classroom grouping of boys. A similar assumption was made regarding the varying levels of perceived acceptance and perceived demand. It was also assumed that subjects were capable of understanding the instructions and items of the inventory without difficulty.

Delimitations of the Study

This research focused on boys in grades four and five with an age range from 8.42 years to 12.83 years. These subjects were attending regular classes in two elementary

schools located in a large urban center in the interior of British Columbia which contains a broad range of family patterns, cultural groups, and socioeconomic strata. These schools were situated in residential areas which included several cultural groups and various family types.

Justification of the Study

Research investigating hyperactive behavior has only recently shifted emphasis towards the social-situational aspects of the child's difficulty. With very little exception, these studies have relied on understanding these behaviors through ratings by teachers, parents, doctors and other professionals using a variety of observational techniques. As suggested by some investigators, and carried out by only one or two, the perceptions of the children themselves needs further exploration.

Since children's perceptions are valid sources of data, and since the child's perception of the behavior of significant others influences that child's behavior, greater understanding of this dynamic within the classroom setting may provide valuable insight for the teacher. One recurring source of concern and demand on the teacher's resources lies in managing effectively those children, often boys, who display varying behaviors which can be particularly problematic. All children have a unique way of seeing the world and some children bring into the classroom a set of "negative" perceptions of others.

Children generally believe that their perceptions are true, and it is therefore critical that teachers be able to accurately assess the children's perceptions of their behavior.

With this enhanced awareness teachers will be better able to correct these faulty assumptions and redirect children's behavior. Classroom strategies directly aimed at both altering children's faulty perceptions and reinforcing more accurate perceptions would include specific verbal and non-verbal strategies from the teacher who is seen by the child as a significant adult.

This focus of research on hyperactive behavior is very new with only a scant amount of information available. A few investigators have suggested such a direction and the present study will attempt to shed further light on this current topic.

CHAPTER II

Review of Related Literature

The literature relevant to this study is presented in a developmental sequence and may be classified under four general areas, each having subdivisions. The first area develops a model for viewing hyperactivity in a behavioral manner. The interactional position is then elaborated from various vantage points followed by an examination of parent-child and teacher-child interaction. Establishing the need for determining key aspects of children's perceptions and their validity rounds out the review.

Behavioral View of HyperactivityOperational Definition

The hyperactive child has been called so many different names by lay people and professionals alike that several prominent researchers correctly identify this syndrome as probably the most common behavior disorder of children (Weiss and Hechtman, 1979). These authors further identify a behavior description which found its way into popular classical literature for children in several countries. They cite Stewart who quoted an English translation of a popular German tale "Struwel Peter" by Hoffman:

Fidgety Phil
He won't sit still
He wiggles
He giggles..."
and when told off:
The naughty restless child
Grows still more rude and wild. (p. 1348)

Laufer et al. (1956) are often cited as being the first investigators to label this problem as "hyperkinetic impulse disorder" of childhood. They also described its main features of irritability, low frustration tolerance, poor schoolwork, and visual-motor difficulties. These typically, characteristic behaviors have proven to be accurate descriptors over time as noted by another prominent researcher in this field (Loney, 1980).

One might actually say that Laufer's 22-year-old hyperkinetic impulse disorder will expire just after reaching its maturity, because as we enter the 1980's the Diagnostic and Statistical Manual of the American Psychiatric Association will be replacing the diagnostic category of Hyperkinetic Reaction of Childhood (DSM-II) with the category Attention Deficit Disorder with Hyperactivity (DSM-III). (p. 30)

Although Loney goes on to sound a note of optimism and encouragement for this recent shift in focus, the complexities inherent in any investigation of this problem of childhood are enormous.

Levine and Oberklaid (1980) demonstrate this vividly in a recent study which surveyed ten previous retrospective and follow-up reports. Those studies surveyed included several influential researchers who suggested that children identified as "hyperactive" are at risk for a wide range of difficulties as adolescents and as adults. In attempting to match the symptoms emphasized and other diagnostic criteria used in sample selections with the most recent categorial definition of this disorder (DSM-III), Levine, and Oberklaid state:

"recently there has been considerable interest in the term attention deficit disorder. This too may turn out to be an overly inclusive categorization" (p. 412). They go on to differentiate between children with primary attention deficit, secondary attention deficit, situational inattention and mixed forms of chronic attention deficit. Further, they describe possible sub-groups within each category and then conclude by saying:

As a clinical phenomenon, it is unlikely ever to become etiologically and therapeutically specific. It should be conceptualized as a vital subject area for developmental pediatrics (and other disciplines) rather than a clearly definable syndrome. It is likely that "hyperactivity" is both a complex symptom and a complex symptom complex. We prefer not to use the term! (p. 413)

Other problems in defining "hyperactivity" are noted by Loney (1980) in her extensive review. She points to the tendency in studies of hyperactivity to consider the syndrome to be valid and present only if it is displayed uniformly and reliably and yet a prevalent characteristic of hyperactivity noted in the literature is its unpredictability. Loney (1980) notes another tendency which surfaces resulting from "those who believe that the label is misapplied to normally exuberant and lively youngsters by hyperrepressive and hyperannoyable parents" (p. 29). Although Loney's contention that little data exists to support or refute this belief is valid, Keith (1974) points out that the hyperactive child is typically identified by observers: who are subject to errors of judgement; who may expect the child to fulfill their needs; or who may be

influenced by others' stories of the child's history or present functioning. In reviewing some of the measures which have been employed specifically to assess activity levels in the classroom, Bowers (1978) summarized quite succinctly, that:

A fundamental problem in attempting to provide a measure of hyperactivity lies in finding an acceptable behavioral definition of the term. The vagueness, disagreement and subjectivity involved have been highlighted by Buddenhagen and Sickler (1969) who conclude: 'It is our impression that hyperactivity describes those aspects of a person's behavior which annoy the observer'. (p. 540)

To add to the confusion, at least 37 different labels have been applied to overactive behavior manifested in childhood (DeLong, 1972):

Terms such as hyperkinesis, hyperkinetic impulse disorder, hypermobility neurosis, postencephalitic behavior disorder, organic drivenness and minimal brain dysfunction, while reflecting differing views of etiology and recommended treatment, inevitably overlap and have come to be used almost interchangeably." (p. 412)

However, Weiss and Hechtman (1979) note that "in spite of the diverse terminology there is a remarkable similarity in the clinical description of the syndrome, and DSM III defines operational criteria for the diagnosis" (p. 1348). The most commonly observed and agreed upon symptoms would include; excessive general hyperactivity (physical restlessness), difficulty in sustaining attention, impulsive behavior (as manifested by sloppy work, speaking out, interrupting, difficulty waiting, fighting because of low frustration tolerance), poor frustration tolerance, and emotional lability. Two other important qualifiers would include these symptoms being

significantly different from the norm for age in quality and quantity and that the duration be at least one year. It should be noted here that in view of the confusing situation evident in the literature this study used the term "hyperactive" and identified children by strictly behavioral criteria.

Hyperactive Children: Homogeneous or Heterogeneous Group?

Another focus in the literature worth noting, along with its present outcomes, has been the efforts by researchers such as Langhorne and Loney (1979), Ney (1974), and Sandberg et al. (1978) to delineate a group of children who could be called hyperactive and who would behave and respond consistently. As alluded to earlier, and as stated very clearly by Loney (1980) that "despite decades of searching, however, no such homogeneous group is presently known to exist" (p. 30). She emphasizes further how "it is clear that the syndrome is not monolithic and that children who are said to have the syndrome are a heterogeneous group in etiology, symptoms and course" (p. 34). To paint a picture even more pessimistically in this regard Langhorne and Loney (1979) point out that even though six of their reviewed researchers have suggested subgroups based on their clinical experiences, these categories have not been supported empirically. They further note two other studies which have had similarly disappointing results using multivariate statistical techniques in attempting to isolate clusters of symptoms. A previous attempt by Langhorne

et al. (1976) used factor analytic methods on measures of the most widely agreed upon core symptoms of hyperkinesis in a group of 94 boys seen at a child psychiatry clinic between 1967 and 1972. It was noted that the three stable factors accounting for 64% of the variance were defined mainly by variables from a particular source of information such as psychiatrist, chart-rater, teacher or parent, rather than symptom-related variables. They then conclude with the somewhat surprising result that "instead, the outcome of this study, which was designed to maximize the possibility of obtaining a single syndrome cluster, is essentially the same as previous analyses of presumably more heterogeneous collections of MBD symptoms" (p. 206). This brief review of the more extensive attempts to delineate a homogeneous subgroup of hyperactive children is not included to demonstrate the futility of such endeavors, but rather to indicate a strong thrust of previous research on hyperactivity and to emphasize some important assumptions of the present study.

One Focus: A Behavioral Definition of Hyperactivity

The first position taken here, which finds support in the previously mentioned studies, is that a behavioral definition of the hyperactive syndrome is a valid basis for identifying children manifesting these hyperactive behaviors. In fact, this is the direction taken by the more recent studies on this problem. Another aspect of this study which finds support in

the literature involves the teacher rating children on the level of various typical behaviors since the teacher is one critical source factor as mentioned by Langhorne et al. (1976). Finally, these studies also indicate one clear example of the search for etiology which dominates the literature. Varga (1979) notes how "the literature is replete with a variety of attempts to explain the origins of hyperactivity" (p. 414).

Models of Hyperactivity: Etiology

These views of etiology have been summarized briefly and comprehensively by Lambert et al. (1978) in terms of three models of hyperactivity. The first model sees the condition as an attribute of the individual and posits some organic, neurological or metabolic deficit. The social system model blends sociological and anthropological perspectives by stressing the child's environment and the child's role in that environment as defining the hyperactivity. Combining both the child-centered and social system models yields the third interactive system model which suggests a complex interaction between the child's environment and his physical and psychological status which leads to the child being defined as hyperactive. The logical extension of this interaction model would claim that hyperactivity in children could not be defined by a single behavioral dimension or by a single defining system. A further outcome of this position, critical not only to this study but to a broader understanding of hyperactivity, is to

view it as a symptom rather than a disease entity.

The Interactional Model

The Interaction Position

The interaction position finds wide support in the literature. Ackerman et al. (1979), in a psychosocial study comparing personality traits, cognitive role taking and moral reasoning between 20 hyperactive and 20 learning-disabled boys, noted the likelihood of an interaction effect. They observed that "as recent analyses of the Chess-Thomas study group have shown, it is irresponsible to attempt to explain the behavior of children without taking into account their home milieu and life experiences as well as their temperments" (Cameron, 1977 p. 92). Zrull et al. (1970), in analyzing two case histories in depth to indicate the role of depression in the hyperkinetic syndrome, also noted the trend apparent in the voluminous literature regarding minimal brain dysfunction as pointing "toward greater attention to the interaction of organic and emotional components" (p. 33). Finally Weiss and Hechtman (1979) also stress this position in their extensive review of research on hyperactivity. They cite Engel who challenged the traditional biomedecular model of illness to suggest that all diseases be viewed in wider terms by use of a biopsychological model. This wider concept of a medical model applies very aptly to the hyperactive child according to them and their

conclusion is that:

The hyperactive child syndrome can only be understood in all its complexity when viewed from social, psychological, and biological standpoints, and the traditional biomecular medical model does not fit the various manifestations, etiology, and course of the disorder of childhood. Multi-dimensional or interactional models are required which take into account the complex interaction between the child's environment and his psychological and biological status. (p. 1353)

The present study also viewed hyperactivity from the interactionist position and investigated one critical aspect of the hyperactive child's classroom environment, namely, the child's perception of some critical dimensions of the teacher-child relationship.

Further support for the interaction position is found in some very relevant studies which viewed hyperactivity as a symptom rather than a syndrome. Thomas (1976), in her review of the literature concerning different conditions which may have hyperactivity as a symptom, described three underlying disorders. She cites: Chess (1956) who saw hyperactivity as one manifestation of primary emotional problems; Bakwin (1967) who referred to developmental hyperactivity as a description of the activity level of children who were on the upper end of a normal curve of activity for all children; and Bax (1972) who identified hyperkinesis apart from overactivity and suggested inappropriate educational management as one underlying problem. Thomas then goes on to describe two case studies which illustrate how hyperactivity is associated with severe sensory impairment and further adds that:

The use of the term "hyperactivity" as a diagnostic label rather than as a possible symptom of an underlying disorder - either within the child or the environment - is hazardous to the child. It is hazardous because such use implies a single therapeutic category (i.e., treat the hyperactivity per se) when the key to successful management is to evaluate the underlying disorder and treat appropriately. (p. 44)

Another survey of the literature by Stephenson (1975), integrated with her own clinical experience working in a pediatric ambulatory diagnostic centre, where children referred because of hyperactivity were assessed by a multi-disciplinary team, lead her to a very similar conclusion as that stated by Thomas above. An interesting and productive off-shoot of viewing hyperactivity as a symptom was postulated by Marwit and Stenner (1972) as a partial explanation for the confusion evidenced in the literature regarding the disorder's terminology, etiology, behavioral correlates and treatment techniques. They contend that organicity is but one of several factors to be considered in distinguishing two relatively independent forms of the general disorder "hyperkinesis". They delineated and differentiated between Pattern I or "hyperactive" children, which would be similar to the first model described earlier in their review, and Pattern II or "hyperreactive" children, which resembles the second model mentioned earlier. Although later studies have shown this model to be rather limited as well since no interaction of the Pattern I with Pattern II factors was suggested, the description of a "hyperreactive" pattern of behavior appears to be an accurate forerunner of the thrust

of present investigation. In particular, the focus of the present study is suggesting that a child's hyperactive behavior may be viewed partially as a reaction to some critical elements in that child's classroom environment, namely, the child's perception of teacher behavior.

Hyperactivity as a Reaction

One such investigator foreshadowed by Marwit and Stenner is Hembling (1978, 1980). This family therapist and researcher shares the view that:

Gradual clarification of currently unclear and divergent views on 'hyperkinesis' may come from viewing hyperactive symptomatology as a key manifestation of possible different syndromes. Stephenson's contention that pre-pubertal "hyperkinesis" or "hyperactivity" is simply a symptom, albeit a well-noticed symptom, rather than a discrete feature of any one childhood condition may offer a salutary direction for further discussion, possibly toward the reconciliation of previously disparate hypotheses. (p. 3)

In a retrospective study, 72 hyperactive pre-pubertal children were identified from 114 family referrals. Hembling noted through interviewing the families in their homes that in approximately half of the cases chaotic parenting existed resulting in the child experiencing quite obvious anxiety as a reaction to family dynamics. However, in the other half of the children, no chaotic home-life for the child was revealed even after the most careful interviewing. When a treatment plan was routinely offered to these parents as though chaotic parenting existed it was demonstrated rather convincingly that this hyperactive child settled down significantly. Hembling posits a rather

convincing explanation for this phenomenon based on a view of hyperactivity as a key manifestation of pre-pubertal reactive depression. He claims:

The mosaic is made up of child-specific vulnerabilities (Anthony, 1974), certain parental-family dynamics, and clearly in many cases operant conditioning of the type already referred to by many writers (Baine, 1978) (Ney, 1974).

The mosaic then becomes complicated further by the huge individual variations in maturational rates of the central nervous system (CNS), especially with boys, when stressed further by grouped expectations in most elementary school environments (Bener, 1975) (Ames, 1968). Former "difficult babies" (Allen, 1976) are not the only casualties to emerge in the early primary grades, usually referred for assessment on the basis of their "hyperactivity" and often becoming placed in special education classes.

Add to this mosaic the characteristically common lack of agreement among various clinicians...with respect to diagnostics and treatment. Add further to the poorly defined distinction between a true motoric version of CNS disorder and the vaguer sometimes imperceptible "conduct" disorder, the latter often masked totally in the short period of time devoted and the unfamiliar surroundings, typical of many clinical assessments of the child himself (Eisenberg, 1966) (Rapoport, 1978). So much confusion and ambivalence in the adults providing care for such children, must realistically be considered as one further contribution to the child's sense of insecurity and anxiety. We know well how significant the environmental and interpersonal factors are, particularly with respect to subjects already well-known to be highly field-dependent (Flynn and Rapoport, 1976). (p. 3-4)

Hembling goes on to explain why, on this basis, he believes Ney's (1974) fourth type of hyperkinesis -- chaotic -- which accounted for 21% of his 60 children, was significantly underidentified.

This insightful and significant work by Hembling provides a powerful example of the absolute necessity to assume an interactionist position when studying hyperactive children and it

also demonstrates the wisdom of Marwit and Stenner's postulation of a hyperreactive pattern. Another reason for including Hembling's study here is to provide some initial support for the need to consider the perceptions or experiences of children when assessing the child's family and school environment. This point will be supported further in this review along with the suggestion that the child's perception or experience of his teacher is a comparable influence on his behavior in the classroom environment.

Prevalence of Hyperactivity and Male-Female Ratio

As noted at the beginning of this survey, hyperactivity is one of the most common reasons for children being referred to clinicians and educators today. Stephenson (1975) summarizes prevalence findings which indicate that although North American public school population studies show 5% are hyperkinetic, the Kauai Pregnancy Study estimated 8% of boys may have this handicap. She referred to an often cited study by Bax where no cases of the hyperkinetic syndrome were found amongst 12,000 five year-olds in the Isle of Wight. A similar reference is made to a study by Rutter et al. who identified only 1 hyperkinetic child in a population of over 2,000. A more recent work by Firestone and Martin (1979) made reference to this label being applied to between 7% and 10% of the school-age population. Lambert et al. (1978) sought to reconcile the widely varying prevalence estimates by having parents, teachers

and physicians identify hyperactive children in a sample of 500 elementary school children. They note that "approximately 5% were considered hyperactive by at least one defining system; only one percent were considered hyperactive by all three definers. Prevalence rates were relatively constant from kindergarten through fifth grade" (p. 446). They go on to conclude that no more than 10% of an elementary school population would be considered hyperactive by all three definers. A noteworthy aspect of prevalence studies, as stated by Ney (1974) and which also finds support in numerous other studies, is the male to female sex ratio of hyperkinetic children of approximately 9:1. These indicators of prevalence are included here not simply for interest sake, but to provide additional guidance in identifying the hyperactive children involved in this study and also to help in the interpretation of results.

Lambert et al.'s (1978) study not only provides valuable data regarding prevalence indicators, but it also provides additional support for the interactionist position and for the critical environmental and situational aspects of hyperactivity by noting:

that the report of the child's behavior is made by those who contribute to the child's environment namely the parents and teachers. Because they are a part of the child's environment, their attitudes and behaviors affect both the child's behavior and their perception of the child's behavior. (p. 447)

They further contend how "it therefore becomes incumbent...to specify the environment in which the behaviour occurs and the

source of the label" (p. 447). There is also some direct support implied in this statement for the need to include the child's perception of the environmental experiences.

Before leaving this study by Lambert et al. (1978) it is important to note what they discovered regarding peaks in prevalence rates of the school-identified hyperactive children. Their basic finding was that although slight peaks were noted at kindergarten and grade three, in contrast to grades one and two, with further peaks at grades four and five, the pattern was more one of relatively similar prevalence rates across grades. They explained this movement as resulting from children moving in and out of the considered hyperactive group as a reflection of the changing demands of school and home and different responses of the child's developing organism interacting with environmental circumstances. Again, we find support for the interactional position.

Developing a Position: Behavioral, Interactional

Before moving on to the next stage of this review, a summary will serve to highlight the development of our topic and the focus of this study. It has been noted that extensive efforts to isolate a homogeneous group of children with a hyperactive syndrome has been unsuccessful. There is widespread agreement however, on common behavioral manifestations of hyperactivity which lends support to our behavioral operational definition. Another trend gaining recent acceptance is

that of viewing hyperactivity as a symptom which is best understood as a dynamic interaction between the child and the environment within which the hyperactive behavior occurs. A more specific focus on the child's experience of a particular environment has also been noted and prevalence studies indicate that the elementary school population would likely include a significant number of children which could be identified by teachers as exhibiting hyperactive behaviors.

In order to delineate further underlying premises and positions of this study, previous reviews and studies will be examined next for their findings, cautions, and suggestions related to the interactional perspective of hyperactivity.

Facets of Interactional Position

The earlier cited review by Weiss and Hechtman (1979) offers some supportive direction by indicating that even though the environment may not provide answers regarding primary cause for hyperactive children, it is a highly significant antecedent variable. They add further that the family and school environment are crucial variables affecting the child's aberrations regardless of their largely unquantifiable role. Support for Lambert et al.'s (1978) interaction position of the effect of teachers' and parents' attitudes on both the child's behavior and their perception of it is given, and they also suggest the strong possibility that many hyperactive children have various reactive problems related to family interactions or to resulting

experiences of rejection and failure at school, at home and with peers.

Loney's (1980) extensive review deserves reconsideration to note her discussion and summary comments regarding her hypothetical "state hyperactives" (children whose behavior is relatively resistant to environmental changes). She poses an important question worth investigating: "In what kinds of situations do they behave like normals and in what situations are they hyperactive" (p.33)? She also lends support to the direction of this study by adding that "additional illumination of the interaction between individual and environment variables might in fact be easily supplied by workers who choose to focus upon that paradoxically responsive organism: the hyperactive child" (p.33). The criticism aimed at studying a child who isn't truly hyperactive because he only behaves that way at school is refuted most satisfactorily by Loney when she insightfully adds that "certainly the problems of children with state hyperactivity are as 'real' in their own context as are the problems of children with trait hyperactivity" (p.33).

A third study, also referred to earlier, by Langhorne and Loney (1976) sought to delineate a stable cluster of symptoms of hyperkinesis. The results of their extensive factor-analytic methods essentially paralleled those obtained in previous studies by demonstrating that measures of presumably different symptoms from a common source of information (i.e., psychiatrists, chart-raters, teachers and parents) are more highly interrelated than are several alternative measures of

a single symptom. In brief, they suggest strongly to return to the source of the information since much of child behavior is specific to particular situations. Further support for the situational specificity of behavior is given in their citing of Wahler (1969) who demonstrated that treatment effects often do not generalize across environments as is the case from home to school settings.

The need to study the specific situational aspects of hyperactivity has been further underscored by Whalen et al. (1978) who have been involved in extensive research related to the social ecology of hyperactivity. Before beginning the cited research, dozens of children considered hyperactive were observed, coupled with parent and teacher interviews, revealing a pattern of distinguishing behavior described as "relatively infrequent but inappropriate behaviors that stand out in a given situation or are noticeably unpredictable from the ongoing stream of activity" (p. 79). Other evidence stressing the need for this focus of research will follow but the basic interactional position assumed in the present study will be further expanded by examining and summarizing a position stated by Conrad (1977).

Situational Aspects of Hyperactivity

This social system approach resulted in the very appropriate descriptor, "situational hyperactivity". Drawing significantly from Jane Mercer's approach to the mentally retarded, Conrad (1977) argues that hyperactivity can be viewed as deviant

behavior since the behavior: varies from the norms and the expectations of a given social system; is identified and defined by a significant audience (family or school); is designated as hyperactive and is ascribed to the child; can be identified and understood only within the boundaries of a particular social system. Situational hyperactivity then is that which is reported in one or more, but not all social systems the child is in. He further points out that the child's behavior may vary depending on the social system and understanding the behavior would require an evaluation of the social system as well as an evaluation of the child.

The present study supports Conrad's suggestion that the hyperactive children might be telling us more about the situation they experience than about their individual "pathology". This situational hyperactivity may be seen as "socially caused" or as a response to a specific environment and in fact, it may be a meaningful response that is elicited within the situation. To summarize Conrad's position, he notes that the behavior may be; an adaptation to the situation, a resulting conflict within it, or a statement about the social system. His contention that remediation might need to be focused on the social system rather than the child certainly finds support in previously mentioned research (Hembling, 1978, 1980).

Assuming that an adequate argument has been presented for the need to explore the situational aspects of hyperactivity, let us now turn to further research which explores its social aspects.

Social Aspects

In an analysis of the hyperactive syndrome, where an attempt was made to determine whether the commonly described symptoms associated with hyperactivity are unique to a specific population, Firestone and Martin (1979) concluded that differences existed in comparison to normals but only attentional deficits distinguished them from behavior problem and asthmatic children. Since their criteria for delineating the behavior problem children may have included those where 3 of 4 raters described them as hyperactive, their categories could not be considered independent or exclusive. However, in their review they note that:

Although early investigations suggested that hyperactives were much more active than normal controls, more systematic research has revealed that it is not the overall activity level that distinguishes these children but its social inappropriateness. (p. 262)

In reviewing their own findings they noted other studies which also support the observation that hyperactive children are unable to cope realistically with frustrating events and tend to deny their existence. One important question to be asked here would be: What factors in the child's environment might precipitate such a denial or such an over-reaction? The present study may yield some answers.

Sandberg et al. (1980) focused on the uncertainty about whether organic and social factors of possible causal influence can discriminate between the disorder of hyperkinesis and what Hembling (1978) described as the "vague, sometimes imperceptible

'conduct disorder' " (p. 4). Working with a sample of 226 boys in the age range of peak risk (five to nine years) these researchers gathered information on: medical and social background factors, physical examination of the child, behavior ratings of the child by two teachers' questionnaires (Conners, 1969, 1973; and Rutter, 1967), and a parent questionnaire (Conners, 1974). After examining and intercorrelating their results they confirmed and extended the results of a previous clinic study (Sandberg et al., 1978) where evidence was found that social factors play a causal role in hyperkinesis with little or no suggestion that they played any different role in conduct disturbance. They further note that "overall social disadvantage was strongly related with both kinds of disturbance on the teacher questionnaire and mother's mental distress with high scores of both hyperactivity and conduct problems on the parent questionnaire" (p. 306). Of noteworthy interest in this study was the weight placed on parent and teacher ratings as being valid discriminators.

In a rather comprehensive presentation of the social ecology of hyperactivity Whalen and Henker (1980) included a chapter by Routh. He traced the development of his own research which began in 1972 by looking at the covariation of minimal brain dysfunction leading to a narrower focus on hyperactivity and its relationship to normal child development and social behavior. In 1974 Routh began his initial playroom studies with younger hyperactive children and this led him to comment

in 1978:

But clearly, social variables are proving to be crucial in understanding children's playroom behavior.

Looking at the literature on hyperactivity after these eye-opening experiences with the importance of social variables, the author finds much emerging evidence for the importance of social factors. (p. 69)

One particular aspect of social development which Routh noted, and which has particular relevance in the present study, was the attachment behavior of hyperactive children. Routh was led to suggest that "perhaps when we come to understand better the 'mother presence effect' in the laboratory playroom, we will find that it, too, has some relevance to hyperactivity" (p. 72). In the present study it is suggested that the relationship that exists between the child and the significant adult, particularly from the child's perception of that adult, is highly influential on the child's behavior and in fact, the behavior may be a reaction to the perceived relationship.

In a recent overview of research Barkley (1978) traced a trend apparent in the literature where hyperactivity was initially "viewed as a disturbance in motoric activity levels (Werry, 1968) and later as an attention deficit (Douglas, 1972; 1974). Current conceptualizations place greater emphasis on the broader problems in the social development of these children (Routh, 1978)" (p. 158). He later concluded his review by reiterating the notion that the more important problems of hyperactive children center on their social development and adaptation. Another significant observation made by Barkley, which will be taken up further, views hyperactivity as a

life-long disorder of the individual and he further suggested that the more significant problems in social development become exacerbated with increased age and with increased entry into larger social contexts.

Since all children need to relate to adults in numerous social situations, and since relationships with authority figures is a life-long experience, a focus on some research investigating the social functioning of hyperactive children as adolescents and as adults will not only shed more light on this area, but will also serve to emphasize the importance of making the social aspects of hyperactive behavior a focus of research.

Importance of Social Aspects: Follow-Up Studies

Beginning with reference to Barkley (1978), he cited one of the few studies by Weiss which posits optimistic outcomes for hyperactive children. However in examining this study by Weiss et al. (1979), where 75 hyperactive and 44 controls, initially assessed at six to twelve years of age, were followed up for ten to twelve years, it was noted that the hyperactive subjects had less education, a history of more car accidents, more geographical moves and some continuing symptoms from the hyperkinetic child syndrome, including impulsive personality traits. They then stress the importance of trying to identify this subgroup as early as possible for purposes of intervention since these impulsive personality traits sometimes result in

problems in their life situation.

A study by Morrison (1980) compared social factors of 48 adult patients, who as children had hyperactive syndrome, with 48 patients matched for sex, age and financial status who never had been identified as hyperactive. Each patient was asked about his activity during the early school years and those who stood out from their peers were questioned further to obtain specific characteristics of this disorder. Morrison found significant differences between groups which included such social debilitating experiences as: less education, more divorces, trouble serving in the military, less likelihood of achieving a higher job status, four times the frequency of violence, and twice the prevalency of legal involvement. He then goes on to suggest that the hyperactive group's social deficit may have resulted from "a failure of parental control rather than a direct effect of their childhood hyperactivity" (p.40). This point is worth noting here as it is critical to a focus of the present study which suggests a possible relationship between perceived demand and hyperactive behavior. In fact, an interaction between the two is likely more accurate.

Ackerman et al.'s (1977) study involved three groups of learning disabled boys, 23 hyperactives, 25 normoactives and 14 hypoactives, compared to 31 controls. Follow-up was done on 80% of the subjects at age 14 with an average interval between the initial study of four years. Measures obtained included: behavior ratings in the laboratory, home, and

community; academic progress measures; and a combination of the two. It was found that all three groups remained at a disadvantage to controls on academic and cognitive measures and on complex reaction time. Of particular interest is the finding that half the hyperactives had experienced major conflicts with authority.

In a thorough review of the literature examining the connection between the hyperactive child syndrome and the development of delinquent, antisocial behavior in childhood, adolescence, and later life, Cantwell (1978) used three subdivisions. From six studies based on childhood histories of adults with antisocial behavior Cantwell noted outcomes such as: impulsiveness, destructiveness, alcoholism, antisocial personality, and delinquency. Two retrospective or post facto follow-up studies noted outcomes including: psychotic, time in jail and juvenile halls, and more frequent job changes. His third division, prospective follow-up studies, referred to three major studies which also support the link between the hyperkinetic syndrome and antisocial behavior in later life, with outcomes cited such as: antisocial behavior, high incidence of referral to the courts, fighting, stealing, and drug abuse. In summary, Cantwell feels confident in stating that a relationship between childhood hyperkinesis and later antisocial behavior exists and, although he is unclear of the reason for the association, he suggests possibilities such as: psychological abnormalities; familial and environmental factors;

and educational failure.

This review of the outcomes of hyperactive children is best summarized by Barkley (1978):

First, it is apparent that while the gross motor activity problems of these children may decline with age, as it does in normal children (Routh et al. 1974), problems with restlessness, poor attention span, and scholastic difficulties continue into adolescence and even adulthood. Second it appears that with age, the problems of hyperactive children become more and more serious in the realm of social functioning. That is the overactive, temperamental infant becomes the hyperactive, non-compliant preschool child, and eventually the child who has trouble following rules and teacher commands in the classroom during school years. As the child enters adolescence and participates in a larger social sphere, problems with peer relationships become paramount, as does difficulty in obeying the rules of society. With entry into adulthood, these problems persist and may affect the adult's social adaptation and ability to obtain and hold employment.

. . . a third implication from the follow-up research is that hyperactivity, despite our best treatment efforts, is a life-long disorder, rather than simply one limited to childhood. (p. 160)

This rather powerful statement leads to both an obvious and a more subtle conclusion. First, it becomes clear that the social aspects of this problem need immediate investigation in order to interrupt the rather vicious outcomes. Secondly, the present author maintains that an underlying dimension in the studies reviewed here is that of relationships, in particular the hyperactive child's relationship with parents, teachers, and increasingly more authority figures as he matures.

Having established the importance and need for exploring more fully the social aspects of hyperactivity and also having determined the wisdom of examining its situational aspects, let us now review some research on the specific aspects of

adult-child interaction.

Interaction: Adult-Child

Some very relevant research in this regard by Stevens-Long (1973) required 57 female and 3 male parents of children enrolled in an elementary school to respond to videotaped sequences showing either an overactive, underactive, or average-active child, by selecting a disciplinary practice and an affect toward the child. It was her assumption that certain contexts influence an adult's evaluation of a child's behavior and may also influence the nature and severity of disciplinary practices chosen to control the child's behavior as well as the feelings directed toward the child. She further proposed that certain child characteristics, such as activity level, or a specific label such as emotionally disturbed, might provide this "behavioral context" within which the child's behavior is evaluated. Analysis of variance generally supported her hypothesis that overactive children were punished more severely than the other children, and there was also a correlation between feeling tone or affect and severity of discipline. Other aspects of Steven-Long's research also bear mentioning. Bell (1968) is cited for his elaboration of the relationship between certain child characteristics and parental use of discipline. He suggests that activity level and assertiveness can be viewed as congenital child differences which require a parent to use high magnitude, perhaps more severe, measures of control. Two other researchers are also cited for their further support of

this interaction effect.

Cunningham and Barkley's (1979) study of 20 normal and 20 hyperactive boys ranging in age from 6 to 12 years observed the child-mother interactions during a 15-minute free play and a 15-minute structural task. Hyperactive boys proved to be more active, less compliant and less likely to remain on task while mothers of hyperactive boys were less likely to respond positively to any of the child's behavior, even the constructive. These mothers also imposed more structure and control on all aspects of the child's behavior. In their review they note the lack of research emphasis placed on an objective analysis of the hyperactive child's interaction with significant individuals in his environment and go on to state that:

The behavior of the child, however, is a function not only of his individual temperament and abilities, but also of the constraints imposed by specific environments and, perhaps even more importantly, the individuals with whom the child interacts in those environments. (p. 217)

They further postulate that the behavior of the hyperactive child may elicit rather ineffective management strategies from adults and thus a spiral of negative interaction occurs. For these reasons the behavior of the hyperactive child can only be understood clearly within the context of the behavior of significant individuals in his environment.

Evidence supporting two key assumptions of the present study are already quite evident from the above two researchers. The premise that children described as hyperactive by a class-

room teacher will perceive significantly more rejection and less acceptance from the adult is directly supported, along with the premise that these same children will experience the adult as being more demanding of them. Cunningham and Barkley's (1979) study showed the mothers of hyperactives as imposing more control and structure, yet the children remain hyperactive. The present author suggests that the hyperactive child will consequently perceive the adult as being more demanding and yet less controlling of them since the adult's repeated efforts fail to stop what is intended. Further evidence will be gathered to support this position.

Since the interactive pattern between adult and child described above is so critical to the position taken in the present study, it will be stressed again using reference to work by Bell and Harper (1977) which examines the effect that children have on adults. Their position is summarized succinctly by Cunningham and Barkley (1979) in their previously mentioned study:

Bell and Harper (1977) have emphasized the reciprocity inherent in the interactions of children and their parents. This position recognizes that the behavior of each member of a dyad is influenced by the behavior and responses of the other individual. More specifically, the mother's behavior serves as a stimulus to which the child responds. Similarly the child's behavior acts as an antecedent to various responses from the mother. The responses of the mother and child are further modified by the subsequent responses of the other individual. It is, therefore, the interactions of the mother and child which must be studied rather than the independent responses or unilateral effects of either individual. (p. 217)

In order to gain a picture of the complexity of this

interaction process, we will now examine various family experiences involving hyperactive children.

Families with Hyperactive Children

Barkley's (1978) review describes the evolution of family disturbance contributed to by the role of the hyperactive child as seen in his clinical experience. Fathers claim not to have difficulty managing the child and blame the mother for being too permissive, resulting in marital arguments and often divorce. Barkley further adds that the parents' response styles may exacerbate the behavior problems. Ney (1974), in his delineation of four types of hyperkinesis by categorizing 60 hyperkinetic children from a sample of 263, describes two of his subgroups. "Conditioned hyperkinetic" children typically have parents, usually single mothers who are depressed. Being withdrawn and unaware of the child's normal play, she only interacts with the child for misbehaving. This situation escalates to the point where the mother is angry and the child feels alienated. "Chaotic hyperkinetic" children experience an unpredictable social environment resulting in a rise in the child's anxiety level, which contributes further to his restlessness leading to increased chaos in his environment. Hembling (1978) notes:

Even adults have weaker impulse control when they're anxious. They get clumsy, knock things over, or blurt out things they don't mean to say. That's just what the hyperactive child is doing. Worse still, his anxiety makes him angry, and then his aggressive behavior annoys the adults . . . and so the child gets less parenting,

not more. The parents have to keep reminding themselves that their kid feels unsafe, threatened. He needs to be held and made to feel that things are under control.
(p. 24)

Hyperactivity and Anger

The above references to anger deserve highlighting here since it is the handling of this emotion which contributes to the hyperactive child's experience of rejection from significant adults in his life -- a key assumption in the present study. Two other studies shed further light on this dynamic.

Miller (1977) isolated 70 children with hyperkinetic syndrome from an original sample of 290 based on 10 years of clinical experience as a pediatrician. His unique relationship as family physician is the basis for the conclusions he presents -- the main one being that hyperactivity is primarily an emotional problem. He goes on to add that:

The hyperactive children in my practice have, I believe, problems with excessive internal anger, often self-directed, but intermittently directed outward. Hyperkinesis is the outcome of this; diffuse motor activity - not depressive affect - is the characteristic response of pre-adolescents to internal anger without outlet or means of resolution. Several lines of evidence suggest this.

In the study families, the parents did not express their anger to each other directly; it was displaced onto the child at an early age. This displacement apparently helped the parents' relationship to survive, but the child was scapegoated. In the nature of families, one of the few defenses open to the child is acting-out.
(p. 221)

Randall and Lomas (1978) provide a different focus on the dynamics of anger and extend Miller's (1977) argument. They contend that parents perceive children with behavior

'problems (e.g., hyperactive) as being "disabled" because of projecting feelings of helplessness onto the child. From a psychodynamic viewpoint, this projection can also be interpreted as a defense against anger. They then argue that parents generally invest so much energy in avoiding anger that they fail to influence their children clearly and consistently to change the problem behavior.

The present author suggests that this suppression of anger along with the frustration of a child not behaving as desired contributes greatly to the parent or teacher sending strong messages of rejection, likely unconsciously, which the child receives either overtly or covertly. Since teachers represent a surrogate parent to children, particularly at the elementary school level and especially for preadolescent children, these dynamics are very likely to be present in the teacher-child relationship within the classroom context. This represents another key concept for purposes of the present study and it will be expanded on later.

Hyperactivity and the Social-Emotional Climate

Three studies will add relevant data to the suggested link expressed between hyperactive behavior and the "social-emotional climate". Ackerman et al.'s (1979) study compared three groups of 20 boys with a mean age of 8.5 years (hyperactive, learning disabled, and controls) on measures of personality traits, cognitive role-taking, and moral reasoning.

In addition, parents of these children were interviewed in a process-oriented fashion, with one finding from the psychosocial data indicating that the two clinical-groups were separated most clearly by a dimension of aggressivity-passivity and with the suggestion that immature mothers may be a significant force in the emergence of the hyperkinetic syndrome. The suggestion here being that the hyperactive boys' conduct exasperated the younger moms. A previously referred to study by Ackerman et al. (1977) followed-up three groups of learning disabled boys (hyperactive, normoactive, and hypoactive) to age 14, comparing them to a normal control group on measures of behavior and achievement. They are led to conclude that a hyperactive child is a phenotype and not a genotype, and they speculate on the different possible outcomes had his earlier life experiences, particularly parenting, been different. The hyperactive boys in their study were typically first or second born to fairly young mothers with small families.

Lastly, Sandberg et al.'s (1980) previously cited study included investigations of the influence of social factors on the incidence of hyperkinesis and conduct problems in a primary school population. They cite Brandon (1971) and Loney et al. (1977) who have shown a correlation between hyperkinetic behavior in children and broken homes, parents' marital difficulties, psychiatric disorder in the mother and hostility in parent-child relationships. Sandberg et al.'s study added support to one particular aspect of these findings by showing a strong

relationship between both varieties of behavior disturbance at home and the mother's report of her own mental distress. As pointed out by these authors, the question of which variable affects the other in terms of sequence and direction must be asked. However, it does add further support for the child's hyperactive behavior as being one possible reaction to a particular social-emotional climate.

Hyperactivity and Reactive Depression

The complex interaction between a child's emotional mechanisms and a proposed social-emotional climate, as referred to above, needs further elaboration and clarification. The study of these dynamics and their possible consequences finds root in the relatively young discipline of child psychiatry and in particular the work being done investigating childhood depression. As Neubauer (1974) points out, "child psychiatry is a comparatively new discipline. It is still struggling against the effort to apply to children the experiences and diagnostic categories that have been established for adult patients" (p. 51). The link between childhood depression and hyperactivity has been noted earlier by Hembling (1978) and Miller (1977) in this review.

A significant work by Zrull et al. (1978) observed this relationship in their report of case studies from clinical practice. They note that upon careful examination of children with hyperkinetic syndrome, based on a variety of etiological

explanations, there is evidence for a link between it and depression. Using both descriptive evidence of the depressive disorder in the child as well as the psychological dynamics, they substantiate depression in preadolescent children whose presenting complaint was hyperkinesis. These investigators outline the type of comprehensive and insightful assessment necessary in coming to a clearer understanding of hyperkinesis.

It seems reasonable that a dual approach to viewing children with this problem would be more useful. For instance, the developmental history is one example where both the areas of physical and psychological factors converge and can in some measure be assessed simultaneously. Noting classical developmental milestones in the hyperkinetic child's background is not enough. We need to understand developmental processes, such as the quantity of maternal attention at any early age, the mother's attitude toward the child, the circumstances under which the child began such independent acts as feeding and walking, and the quality of the toilet-training (not just when), with the child's emotional responses to it. Then, too, the responses of the parents to the hyperkinesis, with attendant prohibitions on them, or feelings of helplessness; all have an impact on the symptomatology. (pp. 34-35)

Zrull et al. also provide us with a revealing prospective on the link between hyperactivity as a symptom of childhood depression in a comparison to the symptoms of an adult syndrome, called agitated depression, where the frequently seen symptoms are agitation, poor concentration, depression and irritability. Upon matching, parallels can be seen between hyperactivity and agitation, distractibility and poor concentration, irritability and emotional instability. The important difference worth noting is that in children the impulsivity is the means of handling aggression, whereas the adult turns this aggression

inward and "appears" depressed. An additional point deserving highlighting in this clinical study is the explanation given for the empirical findings noted in the literature review of the present study, regarding the outcomes of hyperactive children as adolescents. They observe that generally the hyperkinetic behaviors decrease at puberty with an upswing in antisocial behavior, along with the not uncommon development of overt depression in the adolescent. Zrull et al. postulate this as a possible answer to what happens to the hyperkinesis as the child reaches puberty.

A further example of the subtle but powerful consequences of these parent-child dynamics is found in a previously cited work by Hembling (1978). He states:

I believe that some children may be made anxious and become reactively depressed in response to parental inconsistencies and double messages, so hidden from view, that even the most skillful therapist will not identify their presence or significance. Reactive depression is just such a diagnostic category, and in pre-latency aged children its presence generally results in hyperactivity, acting-out, a high level of anger, distractibility, loss of normal sleep patterns, all of which is to be distinguished from typical depressed states in adults. (p. 5)

Hembling also cites Segal (1977) who argues for the value of viewing hyperactivity in the context of depressive state.

This position is also supported by Yahraes (1978) who cites the work of Dr. W. E. Bunney Jr. and associates in their work with the National Institute of Mental Health. They report that hyperactivity is common in the children experiencing the most prevalent type of childhood depression -- masked depression.

Hyperactivity as a common symptom of 45 out of 72 prepubertal children referred to an educational diagnostic center and later diagnosed as clinically depressed was also reported by Weinberg et al. (1973).

It is clear then that much evidence exists to support a strong link between hyperactivity and childhood depression which is best understood as an interaction within a parent-child relationship. It is also clear that anger, and the manner in which it is managed is a significant variable in the symptomatology of depression, particularly the hyperactivity. Although this foregoing research suggests very strongly that Miller's (1977) contention of emotional dynamics providing the best explanation for hyperactivity is probably accurate, the etiology of this disorder is not the concern of the present study. This research was presented to provide further evidence for examining the adult-child relationship, and in particular, the child's experience of that relationship in order to relate to the hyperactive child more effectively. Further evidence was also provided to support the dimension of acceptance versus rejection in the adult-child relationship as a consequence of the manner of dealing with the underlying emotion of anger.

Parent-Child and Teacher-Child Dynamics

Parent-Child Dynamics Generalizing to Teacher-Child Interaction

So far we have explored dynamics of the adult-child relationship from the parent-child perspective. This has occurred

for two main reasons. First, there is much more research on the parent-child relationship than on any other investigations of adult-child interaction. Secondly, the position taken here, and supported by other theorists and researchers, is that the dimensions of this relationship generalize to other adult relationships. As referred to earlier, the teacher as "surrogate parent" represents another very significant adult in the life of an elementary school age child and it is this relationship that the present study is exploring from the child's point of view. Before looking at the teacher-child relationship it is important to gather more evidence supporting the assumption presented above suggesting that the dimensions of the parent-child relationship generalize to other adult-child relationships.

Cox (1962) provided a partial test for the hypothesis that the attitudes a child has towards his parents generalize to many other individuals, by gathering data from 243, 10 to 11 year old boys on the Thematic Apperception Test as a means of assessing degree of attachment to or rejection of both parent figures. He then correlated these findings with four peer group measures and found a significant correlation. In presenting his theoretical background he notes the different concepts used to explain these transfers or generalizations.

One such concept -- stimulus generalization -- proposed by Dollard and Miller, describes how the personality of a therapist and his presence creates a social situation which

reminds the patient of earlier experiences of punishment or reward involving authority figures. The stimuli of the therapist then makes him similar in many ways to parents and the patient generalizes those responses on to the therapist. Cox also cites a reference to Piaget:

According as the first interindividual experiences of the child who is just learning to speak are connected with a father who is understanding or dominating, loving or cruel, etc., the child will tend (even throughout life if these relationships have influenced his whole youth) to assimilate all other individuals to his father scheme. (p. 872)

On the basis of this theoretical background Cox then assumes:

There would be a positive correlation between a child's attitudes towards his parents and the quality of his interpersonal relationships with other individuals with whom he enters into similar relationships: namely interpersonal relationships which have affective and/or authoritarian components (cf. teachers). (p. 822)

In a powerful and persuasive paper, Van Kaam (1977) traces the dynamics of hope and despondency in the parents of handicapped children -- we could consider hyperactivity to be one such handicap. In exploring the interaction between a child and his parents he notes how every child, particularly one with a handicap, is left with a deep impression of how he experiences and must cope with his parents regardless of how obvious that impression might be. The child's future relationships are then modelled on these earlier ones to the extent that "these early meetings with disillusioned, anxious or falsely guilty parents give rise to emotional experiences that permeate the life of the handicapped child to its deepest

roots" (p. 308). Toman (1976) also posits how:

A person transfers or generalizes his experiences within the family to social situations outside the family, for instance to the playground, to kindergarten or school, to acquaintances he might have and to friends he might make . . . at any rate, day after day, often for many years. (p. 4)

And he further proposes:

One may assume that it is the early and more pervasive life contexts rather than contexts emerging relatively late and more sporadically that serve as a basis for generalizations of past experiences to new contexts. The family's influence on a person's behavior in school is usually greater than the school's influence on his behavior in the family. (p. 5)

As we now begin to explore the dynamics of the teacher-child relationship and search for evidence supporting what the present study considers critical dimensions of this relationship as it relates to the hyperactive child, a brief re-focusing will serve both as a reminder and as a guidepost.

The necessity of examining the context where hyperactive behavior occurs is evident, along with the need to focus on the adult-child relationship in that context. A more specific need is to assess the interactive process occurring between the adult and child as influenced by the child's perceptions. It is assumed that the classroom teacher will react to the hyperactive child and will also be experienced by the child in a fashion similar to the foregoing elaboration of the parent-child dynamics. In a sense, the classroom can be viewed as a family with a single surrogate parent having an extraordinary number of siblings all with surprisingly similar ages. The critical dynamics which we are exploring in the present

study, as perceived by the child, are acceptance and demand. A thorough review of the literature uncovered only one study (Loney et al., 1976) which examined the teacher-child relationship from the hyperactive child's point of view, thus requiring evidence to be gathered by more indirect means such as reading between the lines of related studies.

Teacher-Child Interaction

In a previously cited study which focused on the degree of effectiveness of assessing hyperactivity in schools, Bowers (1978) cites Campbell et al.'s (1977) description of a possible classroom interchange. The possible contagion of high activity level coupled with the teacher's response can serve to either calm or exacerbate such behavior, so to compare any one child's level of activity with some ideal or norm would require accounting for the stimuli in the context. The full meaning of the behavior would also require an awareness of what is being taught, how it is being taught, and by whom. One clear implication here is that the quality of the teacher response is very critical in the specific context.

Ackerman et al.'s (1977) significant work points out that both parents and teachers are likely tolerant of the restless or wiggly child as long as work is completed and other children are not disturbed. However, the hyperactive child's propensity for breaking classroom rules, for being restless and distractable, for not completing work, and for not performing up to

expectations would certainly lead him to being singled out. One wonders after all how many teachers could tolerate and accept such a child within the classroom.

Using multivariate analyses and planned comparisons of teacher ratings, peer perceptions and interactions, and classroom behaviors on 17 hyperactive and 17 active elementary school-age boys, Klein and Young (1979) attempted to assess hyperactivity in what they described as its most probable setting -- the classroom. Their major results delineated four types of hyperactives (i.e., anxious, conduct problem, inattentive, and low problem) and pointed to the need to study and treat them as heterogeneous groups. However, among their other findings some have particular relevance to the present study. They note, for example, that their review of the literature identified behavioral and academic problems occurring in the classroom setting as being two of the common clinical characteristics leading to the labelling of hyperactivity. In their observations of classroom interaction, hyperactive boys interacted significantly more with adults in the classroom than did active boys and these observations validated the teachers' report that a time-consuming and formidable task was to keep the hyperactive boys on-task and nondisruptive.

The present author suggests that regardless of the personality of the classroom teacher, the nature of the teacher's task requires a priority of concern for order, routine and on-task behavior. Since hyperactive children present functioning

patterns virtually at odds with these goals, it is the exceptional teacher who would not become frustrated with and unaccepting of these hyperactive children who could easily be seen as thwarting the teacher's plans. It is also felt that the children themselves must be experiencing the teacher's behavior in a rather unique manner from other more "competent" and "compliant" peers. In fact, Klein and Young's other relevant finding was that "hyperactive boys were found to be significantly different from actives on measures from all data sources in that they were perceived and interacted more negatively" (p. 425).

This need for order and control in the classroom has been referred to by Conrad (1977) as a possible explanation for the child being reported hyperactive at school but not at home. He contends that the child's behavior might be a comment or adaptation to the classroom social system and he cites Holt and Silberman as having documented the main preoccupations in elementary school classrooms as being order and control. Along this line, Zentall (1980), in a study which will be described later, noted that hyperactive children talked more and were noisier in the familiar classroom settings. He further notes, and rightly so, how this type of behavior: would draw a teacher's attention, might be irritating, and could be noticed continuously even if the teacher wasn't looking at the child. This pattern could also contribute substantially to the teacher labelling the child hyperactive.

Loney et al.'s (1976) study, referred to earlier as the only one found to have studied the hyperactive child's perception of teacher behavior, compared three groups of elementary school boys rated by the teacher to be hyperactive and refractory, most active but not refractory, and normoactive classmates. Each boy was then given the Teacher Approval-Disapproval Scale. This self-report questionnaire had previously been validated on a sample of 144 boys and 166 girls in ten grade four classes and on test-retest reliability studies was shown to produce co-efficients significantly different from 0 at the $p < .001$ level for 21 out of 23 items for boys and 20 out of 23 items for girls. Although the sample size was relatively small for the hyperactives when the test was then administered to the three groups (n 's = 16, 25, 93 respectively), significant differences were noted in their responses to 8 out of 11 individual items which ask the child about the amount of teacher approval and disapproval directed toward himself personally and about the frequency of his own happiness and unhappiness in the classroom. In comparison, the boys differed significantly on only 2 of 11 corresponding class items, which ask the child about teacher behaviors toward the class as a whole or about the happiness and unhappiness of the entire class. More specifically, the most active rated boys differed from normoactives in their rating of individual teacher disapproval to the whole class. However, the hyperactive boys said they received significantly less approval from teachers for academic, motivational,

and social behaviors than did normoactives as well as significantly more general disapproval. Loney et al. then suggest the possibility of a higher prevalence of learning problems in the hyperactive group and consequently less academic reinforcement.

They also cite other relevant research pointing to differential teacher perceptions and treatment based on sex of child. For example: Meyer and Thompson (1956) and Jackson and Lahaderne (1967) report more teacher disapproval dispensed to boys; Good and Brophy (1972) noted twice as many boys in a teacher-nominated "rejection group"; and Martin (1972) discovered that high rates of teacher-child disapproving contacts were recorded for boys as compared to girls and, more critically, for a minority of boys -- those with behavior problems. Finally, Loney et al. noted their study boys receiving less personal approval, more personal disapproval, and having more negative individual attitudes about being in the classroom.

One criticism of the above study by the present author is addressed at the nature of the self-report questionnaire, which, although being described as behaviorally focused, does in fact ask the child to make judgements about others' happiness and enjoyment on a few items. In spite of this shortcoming, this study provides some valuable groundwork in determining the hyperactive child's perceptions of teachers' behavior toward them. Of particular importance is the implication that children with disruptive behavior problems, mostly boys, are likely to receive greater teacher disapproval.

The present study explores and extends this implication.

Teacher-Child Interaction: Setting Related and Task Related Factors

Closely paralleling these studies on teacher-child interaction are some that investigate the effects of different settings and tasks on the pattern of functioning of hyperactive children. These will be examined for the added light they shed on the overriding important teacher-child relationship as influenced by the child's perception.

Zentall's (1980) previously referred to work involved a continuous recording of specific behaviors of matched pairs of hyperactive and normally active children in six different natural classroom settings which varied from high structure and low external stimulation (i.e., seat work and no distractions), to low structure and high external stimulation (i.e., free choice and high level of distraction). Some of the findings using multivariate analyses have been reported earlier but of special note here is that in the most frequently observed classroom settings -- low stimulation (seat work) -- the hyperactive children showed significantly more noise and talking along with more disruptive and off-task behavior. The amount of structure, defined here as degree of teacher direction, was directly related to the type of off-task behavior, and the hyperactive children showed higher levels of disruptive acts across the high and low structure settings even though these differences became less over time in the high structure settings.

In a closely related study by Jacob et al. (1978) eight hyperactive and sixteen nonhyperactive children were compared on five individual categories of characteristic hyperactive behavior: soliciting teacher attention, aggression, refusing teacher request, change of position, and daydreaming. Using observational measures, significant differences were found between the two groups in formal settings involving a small number of teacher-specified tasks but not in the informal settings involving choice and a variety of tasks. Further noted by Jacob et al. (1978) was the tendency of children in the hyperactive group to display higher frequencies of behavior than controls in both settings on four of the five behavior categories. An interesting by-product of this study showed a highly significant correlation between the composite observational measures and the Connors Abbreviated Rating Scale (1969) as well as a teacher subjective rank ordering of hyperactivity in the formal setting. This supports one aspect of the methodology of the present study. A final point implicit in Jacob et al.'s study may be drawn by considering the possibilities of teacher-child interaction in a typical, teacher-directed, formal classroom setting. The present author maintains that children displaying higher frequencies of characteristic, hyperactive behavior may be the target of less teacher acceptance and more teacher demand. One other possibility posited in the present study suggests that these "hyperactively acting" children will in fact perceive the teacher more negatively

than their less disruptive classmates, thus aggravating an already difficult situation.

Flynn and Rapoport (1976) compared two groups of 30 hyperactive boys who had previously participated in a study of drug treatment of hyperactivity. In attempting to gather data on the more appropriate type of classroom for these boys, 10 were observed in "open" classroom environments and 13 were observed in "traditional" settings. Using the Connors Teacher Rating Scale (1969), as completed by observers as well as the teacher, the groups were compared for level of hyperactivity and academic status as it related to type of classroom. Flynn and Rapoport (1976) cite Cruickshank (1967) and Strauss and Lehtinen (1947) as supporting the long standing assumption that the high structured, self-contained classroom is the most desirable environment for hyperactive children. However, their findings indicate that open classrooms may be a preferable placement for many hyperactive boys. This seemingly conflicting finding is clarified in their description of the open classrooms in their study which typically: operated with clear guidelines; had teachers who dealt with conflicts and disruptive behavior without involving the group; and had warm, open, and accepting emotional climates. The emphasis here on teacher differences has been further reinforced by Whalen et al. (1979) in their long term research investigating the classroom environment as one critical aspect of the social ecology of hyperactivity. They note that:

Individual differences in teachers also enter the picture. Some teachers function best in quiet, orderly classroom settings where all children follow a single, well-delineated routine. Other teachers (and their students) thrive in a more complex, flexible, and multidimensional environment. (p. 79)

While comparing the relationships between various distractions and task performance of hyperactive and normal children, Steinkamp (1980) made some rather interesting observations which add further emphasis to the dynamics of the teacher-child interaction. She noted that although the presence of an adult decreases time-off on a complex task (i.e., Arithmetic), the efforts addressed to decreasing time-off task do not in themselves result in improved score performance. The potential teacher frustration resulting from no school gains in spite of increased effort in managing the hyperactive child is obvious to the present author. Add to this the child's faulty perception of the teacher's efforts at "helping" him, and a destructive, interactional cycle is set in motion.

Children's Perceptions

Acceptance as a Critical Factor

Supporting evidence for the need to examine the degree of acceptance perceived by the child displaying varying levels of hyperactive behavior has already been referred to in the foregoing review. Ackerman et al. (1977) and Morrison (1980) lend additional support for this in their follow-up studies by noting how adults diagnosed retrospectively as hyperactive

vividly recall the multiple failures with resulting disapproval and depression, and the higher tendency for hyperactive boys to remember fathers who were hostile. Cunningham and Barkley (1979) cite Battle and Lacey as noting how mothers of overactive boys appear more critical and disapproving. Zrull et al. (1970) in their clinical description of the role of depression in the hyperkinetic syndrome describe how the child reacts not only to himself but to others' attitudes, expectations, and frustrations because of his deficits. He also points out how parents may either reject the child or have unrealistic expectations depending on whether they are unwilling to recognize the problem or are unaware of it. Zrull et al. also postulate how the child's depression may be related to parental rejection. Stewart et al.'s (1973) study of the self description of formerly hyperactive children, now adolescents, pointed out the common phenomenon of the arousal of feelings of frustration and resentment in their parents and teachers as well as dislike among their peers. Philips (1979) also describes some possible consequences for the hyperactively behaving child in school whose faulty efforts (i.e., clowning, daydreaming) at gaining acceptance and reward often lead to scolding and punishment. He further notes how the child's acting-out behavior is seldom recognized as a need for consolation but is rather seen as annoying and the corresponding teacher response further reinforces the child's negative perceptions.

Finally, Loney et al.'s (1976) study deserves highlighting again. Using a Teacher Approval-Disapproval Scale this study

confirmed the expectation that teachers behave more disapprovingly towards hyperactive children from the child's point of view. The suggested reasons for this are attributed to more disruptive classroom behavior and poorer performance on cognitive and academic tasks. A further finding pointed to fewer perceived differences when the child was asked about teacher behaviors toward the class as a whole. Also suggested in the results was a pattern of greater teacher disapproval of children with behavior problems, most of whom are boys. This study supports the claim in the present study that children who display a higher level of disruptive behavior, sometimes labelled hyperactive, perceive teacher behavior differently from their classmates. More evidence is also found for examining the dimension of acceptance in the child's experience of the teacher-child relationship. Our attention will now be turned to various aspects of interpersonal perceptions.

Interpersonal Perceptions

Importance and Need for Determining Children's Perceptions

In reviewing the literature around children's perceptions of significant others, as this relates so centrally to the present study, it seemed important to demonstrate the need for determining children's perceptions, particularly of the child who is displaying hyperactive behaviors. Support for the accuracy of the perceptions of the hyperactive child was also gathered.

Research examining children's perceptions of significant adults has arisen through extensive study of parent-child relationships. Ausubel et al.'s (1954) often cited work notes two main assumptions underlying the need for determining children's perceptions of parent behavior. First, although parent behavior is an objective event, it affects the child's development only to the extent in which the child perceives it. Secondly, in attempting to measure such intrinsic and emotionally laden issues as acceptance or rejection, the child's less experienced and less devious responses seem likely to be more accurate than the ratings by the parents themselves or by an observer. Schaefer (1965) is also cited regularly and is viewed by Goldin (1969) as one researcher who has done the most extensive factor-analytic work in the area of children's reports of parent behavior. His Children's Reports of Parent Behavior Inventory (1965), which has been used most widely by subsequent researchers in the field, is based on this same underlying assumption that the child's perception of his parents' behavior may be more related to his adjustment than the actual behaviors of his parents.

Using the Bronfenbrenner Parent Behavior Questionnaire (Rogers, 1966), Gecas et al. (1970) applied this principle of the child's perceptions of parents across two cultures and found significant similarities. Their theoretical orientation deserves mentioning here:

In the tradition of G.H. Mead (1934) and C.H. Cooley (1902) the self is defined as a symbolic construct and explained in terms of the reflected appraisal of others.

In coining the concept of the "looking-glass self", Cooley emphasized the reflective nature of the self, i.e., one's social reference is determined by his imagination of how he appears in the minds of others. Sullivan (1947) defined the self as an organization of conceptions and perceptions whose primary purpose is to decrease anxiety which results from the disapproval of others. . . . Thus, through evaluational interaction with others, the individual forms an organized pattern of perceptions about his own nature--perceptions of both negative and positive value. (p. 317)

The present author contends that children bring these varying perceptions into the classroom and they influence greatly the ensuing teacher-child interaction. Loney et al. (1976) point out quite rightly that children know better than observers which teacher behaviors actually serve as approvals and disapprovals, and, since the children spend much more time in the classroom than is either practical or possible for even the most astute observer, the children's perceptions will be important regardless of the degree of correspondence with observer ratings. Woynshner (1979) surveyed 2,279 children ages 7 to 11 and 1,747 parents along with 1,730 teachers using self-administered questionnaires. Of particular noteworthiness to our study is her observation that children's perceptions of themselves and their environment are often very different from the perceptions of the adults who know them and who share the same environments. She also noted how rich a source of information children have about themselves and how they can be both articulate and eloquent about matters that affect them directly. Hembling (1980) comes to a similar conclusion in his investigations of the etiology of family-based child disturbance. He cites Rohner et al.'s (1980) work

in this direction and concludes:

Such a child-centered approach and focus on the child's own experience of his family appears more relevant than some external judge's view of the parenting a particular child might experience. (p. 7)

Validity of Children's Perceptions

Having established the importance and need for determining children's perceptions, we now examine some evidence in support of the validity of children's perceptions as being reliable sources of information about the behavior of others, particularly adult behavior.

A few rather interesting studies involving elementary school boys which surfaced in the literature included data derived from peers which was found to be very reliable. Whalen et al. (1979) compared interactions of normal and hyperactive boys in a structured communication task. Their review observes, in several studies which are unusual from most, data derived from peers included in predictive batteries for hyperactivity. In longitudinal studies of "at risk" children, peer sociometric data was shown to predict adult outcomes better than adult ratings, professional assessments, or objective test results. They also cite Bruininks (1978) and Gronlund (1959) who suggest that ratings by children of the same sex are the most sensitive measure of status within the child's peer group. Likewise, Campbell and Paulauskas (1979) cite Cowen et al. (1973) who report children rated negatively by peers in grade three as being more likely to experience psychiatric disturbance as adults. A final example of the accuracy of children's perceptions

of others is demonstrated by Lefkowitz and Tesiny (1980). In their assessment of childhood depression using a peer nomination inventory with children 10 years old, findings indicated that a list of the presumed symptoms can be translated into observable behaviors which can be assessed reliably and validly by a peer nomination technique.

Validity of Hyperactive Child's Perceptions

Although children's perceptions have been proven generally reliable, does this also hold true for children behaving in a hyperactive manner? Campbell and Paulauskas (1979) noted studies which assessed the hyperactive child's cognitive skills and have not found deficits. They suggest the characteristic behavioral symptoms of hyperactive children are influenced more strongly by factors other than a delay of social cognitive skills. Loney (1974) specifically examined behavior and intelligence test scores of 12 younger and 12 older hyperactive boys. Her results supported the hypothesis that hyperactive children in school at second and fifth grades do not differ from their peers in intellectual endowment. Ackerman et al. (1979) compared and contrasted 7 to 10 year old hyperactive and learning disabled boys on several measures including personality traits, cognitive role taking, and moral behavior. The hyperactive boys were found to be as much in touch with the ideal, or the way things should be, as other children, but teachers saw them as much less willing or able to redirect

their attention and effort to the classwork or to the control of their behavior. Paulauskas and Campbell (1979) compared 10 year old hyperactive boys with controls on three measures of social perspective taking and failed to find significant differences between groups. They further report that although the hyperactive boys were able to differentiate their perspective in a controlled setting, teacher reports suggest that they do not use their social reasoning ability in the natural social environment. In assessing 26 eleven year old boys' knowledge and attitudes about their own medication for hyperactivity, Baxley et al. (1978) found their responses to be knowledgeable about the purpose of their medication and suggest this accurate perception as having possible clinical relevance for the outcome of drug treatment of hyperactive children.

This evidence for the reliability of the perceptions of hyperactive children may appear counter to the argument stated earlier for the unique and faulty perception of others that these children have. The rather delicate point being established here maintains the "soundness" of the hyperactively behaving child's mechanisms for perceiving others' behavior. In other words, these children are able to perceive others as accurately or reliably as their peers. However, the message they pick up is different because of their unique perceptual "set".

Conclusion

In conclusion, the focus of this study will be restated to highlight and underscore its importance. Since children's perceptions of others are reliable and greatly influence their own behavior, they deserve further examination in the context of the classroom. Children who behave in a hyperactive manner present one of the major concerns for parents, teachers and many other professionals. However, the proliferation of studies on these children have virtually ignored the child's perception. As stated by Stewart et al. (1973) and later by Weiss and Hechtman (1979):

Among the many studies of hyperactivity and its treatment there does not seem to be one that is concerned with the thoughts and feelings of the patients themselves. (Stewart et al., p. 3)

This issue of children's perceptions is the concern and the main thrust of the present study.

CHAPTER III

Methodology

The methodological considerations and details of the present study are specified in this chapter.

Population and Sampling Procedures

A total of 103 boys served as subjects in this study. The initial thrust was to involve boys in grades four and five enrolled in regular elementary school classrooms. This target group was realized with 47 grade four boys and 45 grade five boys participating.

In grade four the ages of boys ranged from 9.00 years to 11.33 years; the mean age being 10.07 years with a standard deviation of .50 years. The fifth grade boys ranged in age from 10.42 years to 12.33 years; the mean age being 10.97 years with a standard deviation of .37 years.

As mentioned earlier, the boys were enrolled in eight regular classes in two different elementary schools which were part of a large school system in a major urban centre located in the interior of British Columbia. Both schools were situated in residential areas somewhat removed from the "inner-city" core. However, the particular demographic features could be described as: generally middle-class with some variation in

socio-economic levels; containing relatively traditional family types with a small percentage (less than 30% according to school administrators) of single-parent homes; substantially different in terms of cultural group representation.

There were five cultural groups identified for the participating subjects. These were: Anglo, Continental European, East Indian, Native Indian, and Oriental. The Anglo group was comprised of subjects with either British, Irish, Scottish or Canadian backgrounds. Subjects with Italian, German and French backgrounds formed the Continental European group. The East Indian group was comprised of subjects with background from India, while one subject formed the Native Indian group. Two subjects with Japanese background and one with Chinese background made up the Oriental group.

The somewhat delicate nature of the present study resulted in the accessible population (Borg and Gall, 1979) being boys in grades four and five classrooms where the teacher volunteered to participate. Although volunteer samples have been shown to differ from true random samples in some typical ways (Borg and Gall, 1979; Rosenthal and Rosnow, 1975;), this is seen as non-critical for this study since it is examining dimensions of teacher-child interaction from the child's perspective. The data gathered on each child, and summarized above, appears to indicate a population which could represent many classroom situations, but certainly not all.

Boys in grades four and five were chosen for three major

reasons. The instrument to be used to measure children's perceptions (see Appendix B) has been used previously with children in grades four, five and six. Secondly, the discussion of prevalence rates and male:female ratio in studies on hyperactivity (see Chapter II) justifies the focus on boys and time constraints resulted in narrowing the study to children in grades four and five. Parental consent to participate in the study was obtained for the boys prior to the onset of testing by each school administrator.

Description of Measuring Instruments

The instruments used in the present study were the Teacher Behavior Questionnaire (Koopman and Schroeder, 1977) and the Conners' Abbreviated Teacher Questionnaire (Conners, 1969). Subjects completed the first measure and were rated by their teacher on the second measure. A description of each instrument follows.

1. The Conners' Abbreviated Teacher Questionnaire

The Conners' Teacher Questionnaire, in one of its several forms (Conners, 1969; Goyette, Conners and Ulrich, 1978; Werry and Hawthorne, 1976; Werry, Sprague and Cohen, 1975) has been used most extensively and has been recommended for research and screening purposes (Loney, 1980).

The Abbreviated Teacher Questionnaire consists of 10 brief descriptive statements of behavior directly related to hyperactivity. Each statement is rated from a "Not at All" (0) to

"Very Much" (3), yielding a score from 0 to 30. A score from 15 to 30 has been shown to clearly differentiate hyperactive from non-hyperactive children (Campbell and Redfering, 1979; Gordon, 1979; Loney, 1980; Sprague, Christensen and Werry, 1974; Weissenburger and Loney, 1977; Werry, Sprague and Cohen, 1975). Although the primary thrust of the present study did not attempt to identify a group of hyperactive children, this stated purpose of the instrument bears mentioning.

For the purposes of the present study this instrument was chosen to ascribe to children various levels of behavior typically attributed to hyperactivity in a fashion similar to Copeland and Weissbrod (1978). This rating scale was used to assess the relative level of problematic behavior of all boys participating in the study. The classroom teachers, who are considered reliable and competent raters of observed behavior (Conners, 1969; Campbell and Redfering, 1979; Lambert et al., 1978; Loney, 1974; Whalen et al., 1978), completed the scale for their participating students.

Conners' (1969) original teacher questionnaire consisted of 39 items describing problem behaviors rated on a 4-point scale. In attempting to provide information on the reliability, construct validity, and sensitivity of this instrument to teacher observed behaviors, Conners compared one group of children having learning and/or behavior disorders, and being treated with drugs, to another placebo group in a double-blind study. The study sample consisted of 82 boys and 21 girls,

with a mean age of nine years and nine months, being assigned randomly to either group. Teachers who knew the child well were asked to fill out a pre and post-study scale for each child. The pre-drug results were subjected to a principal components factor analysis, using unity in the diagonal and rotation to simple structure by the varimax criterion. This analysis yielded five factors as follows: Factor I - defiant, aggressive conduct disorder; Factor II - daydreaming, inattentive dimension; Factor III - anxious, fearful; Factor IV - hyperactive, restless; Factor V - health. By further correlating the five highest factor pre and post-treatment scores for each placebo group subject, test-retest correlations ranged from .71 to .91. A final analysis involved computing change scores for each group which were evaluated by t-tests on uncorrelated groups. The results showed highly significant changes with drug treatment for all five factors. It was also noted that Factor I, measuring aggressive, disturbing behavior, accounted for most of the variance and was somewhat correlated with Factor IV - hyperactivity. The list has been factor analyzed on a sample of clinic outpatients and normal children ($N = 683$) and has been shown to give relatively stable factor structure across ages and a wide social class range (Conners, 1970).

As noted by Zentall and Barack (1979) in 1973 Conners shortened this form to the 10-item Abbreviated Teacher Questionnaire (ATQ) by eliminating the anxiety and sociability

items which were less related to hyperactivity. These 10 items are among those most frequently checked by parents and teachers of outpatient children and have been found to be relatively sensitive to drug changes. Steinkamp (1980) cites work by Sprague, Christensen and Werry (1974) who found the rating of 15, chosen as a cutoff in grouping subjects, to represent two standard deviations above the item mean of the standardization sample of 291 children. Zentall and Barack (1979), have examined the concurrent validity, inter-rater reliability, and inter-rater reliability for the ATQ (Conners, 1973) and the Rating Scales for Hyperkinesis (Davids, 1971). They had eight teachers rate 83 boys and girls, mean age 8 years and 3 months, in regular classrooms, along with 46 boys and 3 girls, mean age 8 years and 9 months, in special classes being rated by eight other teachers on both measures. In determining interscale predictability, scores from the Conners and Davids Scales were correlated resulting in the significant overall correlation of $r(228) = .84$, and for both regular schools $r(179) = .81$, and for the special classes $r(47) = .80$, all at the $p < .001$ level.

The **ATQ** was chosen to ascribe various levels of observable classroom behaviors, having a strong relationship to hyperactivity, to subjects in the present study. It has been used most extensively with teachers by various researchers and its brevity and reliability also contribute to its suitability. To avoid a "clinical set" or negative halo, the scale was

named Teacher Inventory for purposes of this study. Refer to Appendix A for the ATQ (Teacher Inventory).

2. Teacher Behavior Questionnaire

This instrument is based upon the Bronfenbrenner Parent Behavior Questionnaire (Devereux, Bronfenbrenner and Suci, 1962). Koopman and Schroeder (1977) modified the items to reflect the classroom environment. The questionnaire has 45 statements concerning teachers' behavior and taps 15 separate variables using three statements for each. Sophisticated factor analytical methods have consistently yielded three major components: "loving", "punishment", and "demanding". The punishment component was eliminated from the present study, resulting in five remaining variables clustering together to arrive at a score for "loving" and four variables for the "demanding" score. Variables for the "loving" component include: nurturance, affective reward, instrumental companionship, affiliative companionship, and principled discipline, while the "demanding" concept consists of: prescriptive, power, achievement demands, and indulgence.

Each child was asked to select one of the following five choices for each of the 27 items: Never, Hardly Ever, Sometimes, Fairly Often, and Always. The scoring ranges from 5 (Never) to 1 (Always), so that a low final score affirms certain teacher behaviors. It should be noted here that the three statements comprising the "indulgence" sub-dimension were presented in a "reflected" manner. This resulted in a higher score affirming

that dimension of teacher behavior. Children's scores were transformed to account for this in the calculations. The weightings range from: 1 to 5 for a single item; from 3 to 15 for a single variable; from 15 to 75 for the "loving" component; and from 12 to 60 for the "demanding" component. The 9 variables with their corresponding statements are presented in Table 1. This partial Teacher Behavior Questionnaire (Children's Inventory) was administered to classroom groupings of participating children by the researcher.

TABLE 1

List of Stimulus Items for the Partial Teacher
Behavior Questionnaire (Children's Inventory)

Loving Component

1. Nurturance:
 - Comforts me when I have troubles.
 - Is there for me when I need her/him.
 - I can talk with him/her easily.
2. Affective Reward:
 - Says nice things about me to other people.
 - Is very friendly with me.
 - Praises me when I have done something good.
3. Instrumental Companionship:
 - Teaches me things I want to learn.
 - Helps and encourages me with my own special interests.
 - Helps me with my schoolwork when I don't understand something.
4. Affiliative Companionship:
 - Does fun type activities with me.
 - Is happy when with me.
 - Enjoys talking with me.
5. Principled Discipline:
 - Is just and fair when punishing me.
 - When I must do something she/he explains why.
 - Is reasonable when correcting my mistakes.

Demanding Component

6. Prescriptive:
 - Expects me to help around the classroom.
 - Tells me what I have to do when my regular schoolwork is completed.
 - Expects me to keep my things in order.
7. Power:
 - Insists that I get permission before I go to the bathroom.
 - Makes me do my work exactly when and how he/she tells me to.
 - Insists that I do things her/his way.
8. Achievement Demands:
 - Insists that I make a special effort in everything.
 - Insists that I try to get good grades.
 - Insists that I do a good job on my schoolwork.
9. Indulgence:
 - I can talk her/him into most anything.
 - Lets me off easy when I misbehave.
 - Finds it difficult to punish me.

The Bronfenbrenner Parent Behavior Questionnaire consists of 45 parent practice items drawn from a larger set used by Devereux, Bronfenbrenner, and Suci (1962) in a previous study which found the 15 general variables to be significant. They then used it for cross-national comparisons of child-rearing practices with 72 German-American pairs of sixth grade students (40 boys and 32 girls). In searching for dimensions of parental behavior which were empirically independent they intercorrelated all 45 items to generate four separate correlation matrices: boys describing fathers; boys describing mothers; and the same matchings for girls. Applying Thurstone's diagonal method of factor analysis to each matrix they found 9 factors to be common to all four matrices. In comparing the mean score ratings between groups on these 9 factors, 7 were found to be significantly different at the $p < .05$ level and 1 at the $p < .01$ level.

Siegelman (1965) evaluated the effectiveness of the Bronfenbrenner Parent Behavior Questionnaire as a research technique by administering it to 81 boys and 131 girls in grades four, five and six. Using the same four matrices of male-father, male-mother, female-father and female-mother, several analyses of the data were made. In applying generalized Kuder-Richardson formula 20 reliabilities, he found mean reliabilities of .58, .45, .68, and .51 in correspondence to the above matrices. Considering the scale's use of only three items per factor, Siegelman found these reliabilities quite satisfactory.

He further analyzed the data using a combination of

principal component factor analysis with a varimax procedure and found three factors to account for 62%, 54%, 54% and 48% of the total variance corresponding to the above-mentioned matrices. These three factors were labelled "Loving", "Punishment", and "Demanding" and factor-score reliabilities based on these merged scales ranged from .70 to .91. Siegelman notes further how his factor-analytic interpretation facilitates insight into the psychological nature of a given variable (e.g., the "Nurturance" variable for male-father has high factorial validity for Factor I - "Loving" and low factorial validity for Factors II and III). In this way, examining factor loadings contributes to our understanding of the construct validity of the Bronfenbrenner Parent Behavior Questionnaire.

Several other findings and observations are worth noting for purposes of the present study. Mean comparisons between descriptions of father versus mother found significant differences between boys and girls on five variables. Siegelman then observed how the three factors resemble dimensions reported by other researchers in assessing children's perceptions of parent behavior. Schaefer (1965) and Roe and Siegelman (1963) conclude that factors of love versus rejection and casual versus demanding are descriptive of results reported by several researchers.

Koopman and Schroeder (1977), credited earlier for developing the Teacher Behavior Questionnaire, administered it

to 78 boys and 61 girls in grades four, five and six. Using a varimax rotational principal-component analysis in a manner similar to Siegelman (1965), they also derived three parallel components of teacher behavior: "Loving", "Punishing", and "Demanding". Test-retest reliabilities calculated for the 15 variables ranged from .69 for power to .85 for expressive rejection which was found satisfactory for such an instrument. They also calculated internal consistencies using Cronbach's alpha on the three factors and chose the variables with loadings above .50 as defining the factors. The reliabilities were .86 for Factor I - "Loving", .81 for Factor II - "Punishing", and .63 for Factor III - "Demanding", resulting in non-overlapping factors.

The Teacher Behavior Questionnaire was chosen for purposes of the present study because of its reliability, construct validity, and sensitivity to children's differential perceptions of teacher behavior. In order to avoid a "clinical set" or negative halo effect the name of the questionnaire was changed to Children's Inventory. Refer to Appendix B for the Teacher Behavior Questionnaire (The Children's Inventory).

Nature of the Inventory's Measurement Scales

Both of the instruments used in the present study employ Likert scales. The Teacher Inventory consists of 11 statements which require the teacher to give a rating on a bipolar continuum from "Not At All" (0) to "Very Much" (3). The Children's

Inventory consists of 27 items which require the child to give a rating on a bipolar continuum from "Always" (1) to "Never" (5).

Although it would be difficult to argue that the interval between each point in the scale is equivalent, there is sufficient reason to suggest that the points in the scale are more refined than a simple ordinal level. One could argue that the measurement scales employed in the present study's instruments are at least quasi-interval in nature.

(This justification allows us to employ parametric statistical techniques and analyses, including the Pearson product-moment correlation in comparing the results.)

Design and Data Collection Procedures

This study is classified as correlational research. Subjects selected were expected to vary on the measures of observed classroom behavior and on the measures of their perceptions of teacher behavior. It may further be defined as a relationship study between classroom behavior and perceptions of teacher behavior which were both measured at approximately the same time.

Subjects' classroom teachers were given copies of the Teacher Inventory and were asked to complete them for participating boys in their classroom according to the directions given at the top of the form. These ratings were then scored by the researcher. The Children's Inventory was administered by the researcher to classroom groupings of boys with one testing session in each of the eight participating classrooms.

The procedure for administering this questionnaire followed the instructions at the top of the form. The experimenter began by giving each group the three practice statements for purposes of familiarizing subjects with the 5-point rating scale. The following points were stressed with the subjects:

1. Answering these items requires a different kind of thinking.
2. There is no right or wrong answer.
3. The teacher will not see the results.
4. The important information desired is how true each student thinks a statement is.
5. This information will help other teachers understand children's points of view better.

Once the children understood the answering format, the researcher read the instructions and stressed that subjects respond to the statements about the teacher as they really felt and not as they thought it should be. Each item was read twice for the subjects and the experimenter paused after each item until all students appeared to have responded. Fifteen to twenty seconds was used as a guiding limit for responding, and each group's testing required 30 minutes. Again, all scoring was completed by the researcher.

It should be mentioned here that in order to facilitate the testing procedure in each school, the girls remained in the classroom and also completed the Children's Inventory. However, this data gathered was not related to the present study.

Statistical Analyses

Analyses of results in the present study are primarily correlational in nature. Pearson product-moment correlations were computed between the Teacher Inventory behavior rating and the acceptance variables of the Children's Inventory (see Research Question 1, Chapter I). Correlations were also computed to estimate the relationship between the Teacher Inventory behavior rating and the demand variables of the Children's Inventory (see Research Question 2, Chapter I). The acceptance variables and the demand variables of the Children's Inventory were also correlated to determine their level of relationship (see Research Question 3, Chapter I).

T-tests were performed to test for significant differences between grade four and five boys on mean scores of behavior, acceptance, and demand. The results of the Teacher Inventory behavior ratings allowed for t-tests to be computed which compared groups of teacher-rated hyperactive and teacher-rated non-hyperactive boys on the variables of acceptance and demand (see The Conner's Abbreviated Teacher Questionnaire, Chapter III).

Other analyses were conducted to explore additional questions which arose from the findings related to the research. The Statistical Package for the Social Sciences (1980) was used for conducting all the above mentioned analyses.

CHAPTER IV

Results

The results obtained in the investigation of the proposed research questions are reported in this chapter. The post facto analyses with corresponding results follow and the results of adjunct analyses, although not directly connected to the initial exploration of the specific research questions, are also presented for the additional understanding they give.

Information on the three research questions of the present study was obtained by computing Pearson product-moment correlations between pairs of measures administered to subjects. It should be noted here that all correlations computed were one-tailed tests and the sample consisted of 47 boys in grade four and 45 boys in grade five, thus yielding a total of $N = 92$. A list of these measures and variables, along with their respective abbreviations are presented in Table 2.

The Relationship Between Hyperactive Behavior and Perceived Acceptance (Question 1)

The teacher rating of hyperactive behavior was correlated with the child's perceived acceptance variables in order to investigate their relationship (see Table 3).

TABLE 2

A List of the Test Variables and Their Abbreviations

TEST	VARIABLES	ABBREVIATIONS
Teacher Inventory	Hyperactive Behavior.....	BEHAVE
Children's Inventory	Nurturance.....	NURT
	Affective Reward.....	AFF REW
	Instrumental Companionship.....	INST COMP
	Affiliative Companionship.....	AFFIL COMP
	Principled Discipline.....	PRINC DIS
	Acceptance - Total Score.....	TOT ACCEPT
	Prescriptive.....	PRES
	Power.....	POW
	Achievement Demand.....	ACH DEM
	Indulgence.....	INDUL
Demand - Total Score.....	TOT DEMAND	

TABLE 3

Pearson Product-Moment Correlations^a
Between BEHAVE and ACCEPT Variables

Variables	NURT	AFF REW	INST COMP	AFFIL COMP	PRINC DIS	TOT ACCEPT
BEHAVE	.34****	.26***	.22**	.19*	.28***	.32****

^a All tests are one-tailed.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

**** $p < .0001$.

As the results of Table 3 indicate, there is a significant relationship between hyperactive behavior and all of the perceived acceptance variables. The correlation between BEHAVE and TOT ACCEPT is $r = +.32$, $p < .001$; which is expected since all of its sub-dimensions have significant correlations with BEHAVE. The correlation of $r = +.19$, $p < .05$ for AFFIL COMP with BEHAVE, although significant, is the lowest correlation of the five sub-dimensions for TOT ACCEPT.

The Relationship Between Hyperactive Behavior and Perceived Demand (Question 2)

The question of how the child's perception of demand is related to the teacher's rating of hyperactive behavior was

examined. Table 4 contains the results of this correlation.

TABLE 4

Pearson Product-Moment Correlations^a
Between BEHAVE and DEMAND Variables

Variables	PRES	POW	ACH DEM	INDUL	TOT DEMAND
BEHAVE	-.11	-.18*	-.12	-.29***	-.25**

^a All tests are one-tailed.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Three significant correlations are indicated between the rating of hyperactive behavior and the perceived demand variables. The correlation of $r = -.25$, $p < .01$ between BEHAVE and TOT DEMAND is accounted for by significant correlations of two sub-dimensions. The BEHAVE with POW shows an $r = -.18$, $p < .05$ and the BEHAVE with INDUL shows an $r = -.29$, $p < .01$. The high degree of relationship between BEHAVE and TOT DEMAND appears attributable to the POW sub-dimension and, more particularly, the INDUL sub-dimension.

The Relationship Between Perceived Acceptance and Perceived Demand (Question 3).

In order to investigate the level of relationship between each dimension of the child's perception of acceptance with each dimension of perceived demand, these variables were cross-correlated. Table 5 presents the results of these analyses.

TABLE 5

Pearson Product-Moment Correlations^a
Among ACCEPT and DEMAND Variables

Variables	NURT	AFF REW	INST COMP	AFFIL COMP	PRINC DIS	TOT ACCEPT
PRES	.12	-.03	.04	.11	.20*	.11
POW	.01	.14	.003	.08	.06	.07
ACH DEM	.07	.17*	.14	.20*	.17*	.19*
INDUL	-.35***	-.22**	-.24**	-.20*	-.35***	-.33***
TOT DEM	-.06	.03	-.02	.07	.02	.01

^aTests are all one-tailed.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

As indicated, the variable of TOT DEM does not show a significant level of relationship with TOT ACCEPT, $r = .01$.

However, several of the sub-dimension variables do show relatively high correlations. Most notably, the INDUL variable is strongly related to all of the ACCEPT sub-dimensions at the following levels: $\underline{r} = -.35$, $\underline{p} < .001$ with NURT; $\underline{r} = -.22$, $\underline{p} < .01$ with AFF REW; $\underline{r} = -.24$, $\underline{p} < .01$ with INST COMP; $\underline{r} = -.20$, $\underline{p} < .05$ with AFFIL COMP; and $\underline{r} = -.35$ with PRINC DIS. Also notable is the rather significant relationship that INDUL shows with TOT ACCEPT, $\underline{r} = -.33$, $\underline{p} < .001$. It bears mentioning here that all of these variables are negatively correlated indicating an inverse relationship with indulgence which was expected.

Four other significant relationships involve the ACH DEM variable. It shows an $\underline{r} = .17$ with AFF REW; an $\underline{r} = .20$ with AFFIL COMP; an $\underline{r} = .17$ with PRINC DIS; and an $\underline{r} = .19$ with TOT ACCEPT, all at the $\underline{p} < .05$ level. Finally, the PRES sub-dimension is related significantly to the PRINC DIS variable with an $\underline{r} = .20$, $\underline{p} < .05$.

A summary of the correlations between the major variables -- hyperactive behavior, perceived acceptance and perceived demand -- along with their means and standard deviations are presented in Table 6.

TABLE 6
Means, Standard Deviations, and Pearson
Product-Moment Correlations^a Among the Variables
BEHAVE, TOT ACCEPT, and TOT DEMAND

Variables	BEHAVE	TOT ACCEPT	TOT DEMAND	Mean	<u>SD</u>
BEHAVE	--			8.90	7.01
TOT ACCEPT	.32**	--		40.23	10.34
TOT DEMAND	-.25*	.01	--	24.18	6.88

^aAll tests are one-tailed.

* $p < .01$.

** $p < .001$.

Comparing Grade Four Boys with Grade Five Boys

It was assumed in the present study that the outcomes of the variables measured would be fairly similar for the boys in both grades. In order to investigate the accuracy of this assumption, t-tests were computed to compare the differences between these two groups in their mean scores on the behavior rating as well as their mean scores on the perceived acceptance and perceived demand variables. The 47 grade four boys and the 45 grade five boys were viewed as independent groups in these analyses and the tests performed were all two-tailed using pooled variance estimates.

The results of these comparisons along with the means and standard deviations for each group are presented in Table 7.

TABLE 7
Means, Standard Deviations and t Values Comparing
Grade Four and Five Boys on the Variables,
BEHAVE, ACCEPT, and DEMAND

Variables	Grade	Mean	<u>SD</u>	<u>df</u>	<u>t</u> Value
BEHAVE	4	9.45	7.48	90 ^a	.75
	5	8.33	6.65		
TOT ACCEPT	4	38.47	10.01		-1.69
	5	42.07	10.46		
NURT	4	8.13	2.53		-1.07
	5	8.69	2.51		
AFF REW	4	7.36	2.36		-2.96**
	5	8.80	2.29		
INST COMP	4	6.79	2.39		-1.05
	5	7.33	2.60		
AFFIL COMP	4	8.79	2.54		-.91
	5	9.27	2.50		
PRINC DIS	4	7.40	2.60		-1.04
	5	7.98	2.71		
TOT DEMAND	4	21.66	5.26		-3.86***
	5	26.82	7.42		
PRES	4	6.09	1.91		-1.27
	5	6.64	2.32		
POW	4	4.87	2.00		-4.36***
	5	6.89	2.42		
ACH DEM	4	4.89	2.18		-2.89**
	5	6.44	2.93		
INDUL	4	5.81	2.44		-1.93*
	5	6.84	2.71		

^adf = 90 for all tests.

* $p < .05$.
 ** $p < .005$.
 *** $p < .000$.

It is obvious that some highly significant differences are operative between grade four and grade five boys, as particularly shown by $\underline{t} = -3.86$, $\underline{p} < .000$ on the TOT DEMAND variable. This high level of difference is not surprising considering that three of its four sub-dimensions shows differences ranging from $\underline{t} = -1.93$, $\underline{p} < .05$ for INDUL to $\underline{t} = -4.36$, $\underline{p} < .000$ for POW. The only other significant difference between these two groups occurs with the AFF REW variable, $\underline{t} = -2.96$, $\underline{p} < .005$.

Comparing Teacher-rated Hyperactive and Teacher-rated Non-Hyperactive Boys

The outline of statistical analyses for the present study (see Statistical Analyses, Chapter III) refers to some possible "post facto" comparisons between teacher-rated hyperactive children and teacher-rated non-hyperactive children (see also The Conner's Abbreviated Teacher Questionnaire, Chapter II). For purposes of comparing differences between these two groups on the main variables of hyperactive behavior, acceptance and demand, the designated cut-off point of 15 or higher identified 21 hyperactive boys in our sample. In order to promote a substantial difference in the level of hyperactive behavior in a comparison group, the cut-off point of 10 or lower identified 58 non-hyperactive boys in our sample.

In order to explore the significance of differences between these two groups, \bar{t} -tests were computed on the dependent

variables referred to earlier. These groups were considered independent and two-tailed tests were used including pooled variance estimates. The results of these comparisons along with means and standard deviations are presented in Table 8. Also included are the comparisons of the teacher-rating of seriousness of problem (SERIOUS) for these boys (see Teacher Inventory, Appendix A).

TABLE 8

Means, Standard Deviations and t-Values Comparing
Hyperactive^a and Non-hyperactive^b Boys in Grades Four and Five
on the Variables, BEHAVE, SERIOUS, ACCEPT, and DEMAND

Variables	Group ^c	Mean	SD	df ^d	t Value
BEHAVE	1	19.10	4.07	77	16.36***
	2	4.36	3.33		
SERIOUS	1	1.81	.75		7.90***
	2	.38	.70		
TOT ACCEPT	1	45.33	11.16		2.82**
	2	38.53	8.78		
NURT	1	9.48	2.60		2.64**
	2	7.90	2.26		
AFF REW	1	9.10	2.57		2.32*
	2	7.76	2.15		
INST COMP	1	8.00	2.85		1.85
	2	6.88	2.19		
AFFIL COMP	1	10.10	2.63		2.09*
	2	8.83	2.29		
PRINC DIS	1	8.67	2.82		2.32*
	2	7.17	2.42		
TOT DEMAND	1	20.90	6.64		-2.63**
	2	25.47	6.86		
PRES	1	5.67	2.03		-1.43
	2	6.41	2.06		
POW	1	4.90	1.95		-2.29*
	2	6.21	2.32		
ACH DEM	1	5.10	2.59		-1.12
	2	5.84	2.65		
INDUL	1	5.24	2.39		-2.77**
	2	7.00	2.54		

^aN = 21.

^bN = 58.

^cGroup 1 refers to Hyperactive and 2 refers to Non-hyperactive.

^ddf = 77 for all tests (two-tailed).

* p < .05.
 ** p < .01.
 *** p < .000.

As expected, and as indicated by the results, hyperactive boys differ significantly from non-hyperactive boys on all but four of the variables compared. Not surprisingly, some of the significant differences were found on the SERIOUS and BEHAVE, $t = 16.36$, $p < .000$, variables which were measured by an instrument designed to define hyperactive children in a behavioral manner. The rather significant difference between the two groups on the TOT ACCEPT variable, $t = 2.82$, $p < .01$, is composed of significant differences on four of its sub-dimension variables. This includes AFF REW, AFFIL COMP, and PRINC DIS, all significant at the $p < .05$ level, as well as the NURT variable, with a $t = 2.64$, $p < .01$.

When comparing these two groups on TOT DEMAND, the obviously significant difference of $t = 2.63$, $p < .01$ appears substantially affected by the INDUL sub-dimension, with a $t = -2.77$, $p < .01$, and is also influenced by the difference in the POW variable at the $p < .05$ level. It is somewhat surprising that the ACH DEM component did not show a significant difference between groups since it measures the degree of insistence and demand the child experiences from the teacher in relation to school tasks.

Overall, these results, comparing the hyperactive and the non-hyperactive boys on the main variables measured, strongly support the high level of relationships evidenced between hyperactive behavior and perceived acceptance and perceived demand which have been noted previously.

Additional Analyses

A number of adjunct analyses were conducted to investigate some questions that arose from the primary analyses and to provide additional information on the sample of subjects who participated in the present study.

One question arising from the primary analyses concerned determining the differences that may be present on the main variables of behavior, perceived acceptance and perceived demand as a result of particular classroom group differences. One-way analyses of variance were performed in order to determine whether significant classroom differences exist for these variables. Table 9 presents these results, which compare all eight classrooms from the two schools involved in this study.

TABLE 9
One-Way Analyses of Variance Attributable
to Classroom Differences

Variable	Source of Variance	Sum of Squares	Mean Squares	df	F	p
BEHAVE	BG ^a	829.46	118.49	7	2.68	.015
	WG ^b	3716.65	44.25	84		
ACCEPT	BG	2100.55	300.08	7	3.31	.004
	WG	7625.64	90.78	84		
DEMAND	BG	1062.16	151.74	7	3.93	.001
	WG	3247.72	38.66	84		

^a Between Groups

^b Within Groups

As the results indicate, significant differences exist on all three variables when considering all eight classrooms simultaneously. Although this finding allows us to conclude that at least two of the mean classroom results are not equal (Kirk, 1978), it would be more helpful to know whether any two differed significantly and, if so, which pair. By applying Scheffe's S test (Kirk, 1978) to the data outlined in Table 9 it was determined that no two classroom groups are significantly different at the $p < .05$ level on the variables BEHAVE and ACCEPT. However, one group of grade four boys differed significantly from one group of grade five boys, each having $N = 12$, on the DEMAND variable at the $p < .05$ level. This difference is illustrated by noting their respective means and standard deviations on this sub-dimension. The grade four boys showed a $\underline{M} = 19.50$, $\underline{SD} = 5.18$; while the grade five boys showed a $\underline{M} = 30.00$, $\underline{SD} = 9.92$.

In order to explore these differences on the variable DEMAND even further, additional analyses of variance were performed with Scheffe's procedure by eliminating each of the two groups in turn. This resulted in no two groups being significantly different at the $p < .05$ level when the group of grade four boys was included. However, the same group of grade five boys showed a significant difference with another group of grade four boys at the $p < .05$ level when they were included in the analyses. Further still, by eliminating both of these groups at the same time, an analysis of variance along with

Scheffe's procedure showed no two groups being significantly different on the DEMAND variable.

From these findings it is apparent that the one group of grade five boys is different from the others on the DEMAND variable. The classroom groups may be considered comparable however, on the BEHAVE and ACCEPT variables.

A further question arose from the primary analyses pertaining to possible differences between schools on the major variables measured in this study. The first step in answering this question was to note the frequencies in the distribution of hyperactive children and non-hyperactive children between the two schools. The results of this are presented in Table 10.

TABLE 10
Distribution of Hyperactive and
Non-Hyperactive Boys Between Schools

		<u>N</u>	Percent
Hyperactive	School 1	8	39.1
	School 2	13	60.9
Non-hyperactive	School 1	35	60.3
	School 2	23	39.7

It is obvious from these results that School 2 has a significantly higher proportion of teacher-identified hyperactive children and School 1 has a significantly larger number of teacher-rated non-hyperactive children.

This question was next explored by performing t-tests on the mean variable scores for BEHAVE, ACCEPT, and DEMAND as combined for each school. The results of these tests are presented in Table 11 along with means and standard deviations.

TABLE 11

Means, Standard Deviations and t Values Comparing School Differences on the Variables BEHAVE, ACCEPT, and DEMAND

Variables	School	<u>M</u>	<u>SD</u>	<u>df</u>	<u>t</u> Value
BEHAVE	1 ^a	7.42	6.34	90	-2.24*
	2 ^b	10.67	7.55		
ACCEPT	1	37.74	9.66	90	-2.60**
	2	43.19	10.44		
DEMAND	1	25.50	7.29	90	2.03*
	2	22.62	6.09		

^aN = 50.

^bN = 42.

* $\underline{p} < .05$ (two-tailed).

** $\underline{p} < .01$ (two-tailed).

The significant difference shown between schools on the DEMAND variable, $\underline{t} = 2.03$, $\underline{p} < .05$, was expected since the groups of grade four and five boys, referred to earlier in the analyses of variance, were in different schools. However, the BEHAVE and ACCEPT variables also show differences which are significant at the $\underline{p} < .05$ and $\underline{p} < .01$ levels respectively. These are also expected results in the light of the frequency

distribution results seen in Table 10 which point to real differences between the schools. The final area to be explored next may provide a partial explanation for this difference.

Information on the subjects' cultural background was obtained. Table 12 displays the frequencies of the different cultures as they occur in both schools.

TABLE 12
Cultural Distribution Across Schools

School	Cultures				
	Anglo	Cont. Europe	East Indian	Native Indian	Oriental
1	42	3	--	--	2
2	26	8	10	1	--

To investigate possible school differences, a chi-square test was carried out to determine whether the difference in the distribution of cultures between schools reached significance. The results of this analysis, $\chi^2 = 21$, $df = 9$, $p < .02$, indicate that the cultural groups were, in fact, unevenly distributed between schools.

This chapter reported the results obtained from the analyses performed to investigate the three initial research questions, the post facto analysis, and the additional questions which arose. These results will be discussed and conclusions will be drawn in the following and final chapter of this paper.

CHAPTER V

Discussion of Results and Conclusions

The results of the research questions explored in the present study will now be discussed in the same order used in earlier chapters. Outcomes of the post facto analyses and findings of the additional analyses are also discussed in relation to the particular research question(s) involved.

The Relationship Between Hyperactive Behavior and Perceived Acceptance

The markedly high level of relationship shown between hyperactive behavior and the child's perceived acceptance is consistent with the research discussed earlier and, in particular, the work by Loney et al., (1976). Since this is a correlational analysis, a causal relationship may not be posited between these two dynamics. However, it is safe to conclude that as the level of observed hyperactive behavior in the classroom increases, the teacher's behavior is perceived by the child as less accepting. This could be stated in the reverse order and still remain consistent with the statistical findings.

The critical discussion here does not center on causality or on attempting to establish which factor comes first. But, the studies reviewed earlier which indicated a negative, escalating interaction between the adult and the hyperactively behaving child do find support in these present findings. In

short, the interactional position is supported.

Some caution needs to be expressed before discussing the results of the correlations between hyperactive behavior and the sub-dimensions of acceptance. The development of this instrument as discussed earlier did show these factors to be non-overlapping. In spite of this, it seems rather daring to make claims about a complex factor such as "nurturance" based on the results of three statements only. With this caution in mind, some further observation and discussion is in order.

The nurturance sub-variable showed the highest correlation with hyperactive behavior. Again, this finding is expected as it concurs with the previous discussion regarding hyperactivity and the social-emotional climate (see Chapter II). The individual statements which yield a "nurturance" score (see Table 1) are essentially asking for the child's experience of the teacher in terms of comfort, availability, openness, and caring. Interestingly, these qualities could be seen as more directly related to the personal growth of a teacher and suggest the need to emphasize these aspects in teacher training programs.

Although significant, affiliative companionship showed the lowest correlation with hyperactive behavior. Two of the statements comprising the score for this sub-dimension may have given children some difficulty (see Table 1) since they ask the child to make a judgement on the teacher's inner experience. This abstract ability may have been beyond the developmental capability of some children as was indicated

by their comments during a post-testing debriefing`time.

One factor which needs highlighting when considering these results stems from the earlier indications in the literature review regarding the difficulty hyperactive children experience with many school tasks. By examining the statements which form the acceptance variable, at least one of the three under each sub-dimension could contain school task connotations which are very likely to be negative for the child who behaves more hyperactively than his peers. It would be difficult to separate the child's attitude toward school from the attitude toward the teacher and this most likely has influenced the results of perceived acceptance in the present study.

An additional influencing factor on the behavior and acceptance variable outcomes bears mentioning here as a result of comparing school differences in the additional analyses. School 2 proved to obtain significantly higher behavior ratings by teachers and ratings of significantly less perceived acceptance by children than did school 1. These rather surprising results may be partially explained by the real difference in cultural backgrounds between schools and they would serve to increase the significance of the measures on relationship strength and direction with acceptance.

To summarize, the findings related to this research question are strong and clear with suggestions for further questions worth exploring. Hyperactive behavior shows a strong inverse relationship with perceived acceptance, particularly with the perceived nurturance sub-dimension.

The Relationship Between Hyperactive Behavior and Perceived Demand

As the results indicated, hyperactive behavior shows a strong negative relationship with the TOT DEMAND variable. Since a low score affirmed that perceived dimension of teacher behavior, it appears evident that as the child is observed to behave more hyperactively so also the teacher is perceived as more demanding by the child. This high level of correlation in no way suggests a causal relationship but it does again lend support to the interactional model of viewing hyperactive behavior. The possible inflammatory effects of greater perceived demand combined with less perceived acceptance by the hyperactively behaving child are obvious. Also obvious is the support given to suggestions in earlier research reviewed regarding the in-built stress factors for the hyperactive child in many school settings and tasks. The teacher's and school's needs for order, routine, and control are often at odds with this child's lack of impulse control.

The sub-dimension of indulgence was found to contribute a large part towards the significant relationship between hyperactive behavior and the perceived demand variable. Since the statements for indulgence were presented in a reflected manner, the relatively high negative correlation shown suggests that as observed hyperactive behavior increases, the child perceives the teacher as significantly less indulgent. The other sub-dimension of power also showed a significant negative

correlation with hyperactive behavior, suggesting that as behavior increases the child perceives the teacher as exerting greater power over him. Since both power and indulgence are such complex issues which can have such differing meanings, particularly for adults and children, caution needs to be exercised in drawing too many conclusions from these results based on three statements only.

However, some possible meanings of the more hyperactive child perceiving the teacher as less indulging might include: viewing the teacher as treating them more severely than their more "compliant" peers; a desire for greater acceptance and approval which may be understood as synonymous with indulgence by a child; or it may even suggest the child's deeper wish for greater control from the teacher. By reviewing the individual statements comprising the power dimension (see Table 1) it is possible to suggest that words such as "insists", "makes", and "exactly" could contribute to a negative view of power by the child, particularly the child who may be experiencing a misuse of power by the other significant adults in his life. Correspondingly, these statements would tend to accentuate individual teacher differences in their understanding and use of power in the classroom. The significant difference on the demand variable noted in one classroom grouping during the additional analyses could be viewed as a result of individual teacher difference.

A final discussion point centers around the possible

influence of attitude to school tasks on a child's perception of teacher demand. Very likely a child who finds certain tasks distasteful and difficult would also view the teacher, who asks him to do these tasks each day, as more demanding than his peer who finds the tasks easy and enjoyable.

In short, there is a significant positive correlation between observed hyperactive behavior and perceived demand. This relationship may be explained by individual teacher differences in indulgence and power as perceived by the child.

The Relationship Between Perceived Acceptance and Perceived Demand

The results suggest very markedly that there is no relationship between the TOT ACCEPT and TOT DEMAND variables. This finding was rather surprising since it would appear to follow logically that if hyperactive behavior is related to both acceptance and demand, then they would be related to each other. The expected finding was that as the perceived demand increased, the perceived level of acceptance would decrease. However, the outcomes in the present study would suggest that these two variables operate rather independently of each other. It might be interesting to investigate the relationship between these two variables with an identified group of hyperactive children and with a group of non-hyperactive children. A partial exploration of this nature was done in the post facto analyses and will be discussed later.

Although the global relation between acceptance and demand proved to be negligible, two of the demand sub-dimensions showed several significant correlations with the acceptance sub-dimensions. Indulgence was found to be: substantially related to both nurturance and principled discipline; obviously related to affective reward and instrumental companionship; and significantly related to affiliative companionship. All of these are negative correlations indicating that as the teacher is perceived as more accepting on all of these sub-dimensions, he is also very likely to be perceived as less indulging. This finding gives implicit support to the notion that a teacher might contribute best towards a warm, rewarding, relaxing and open classroom climate -- as perceived by the child -- by being firm and consistent.

The other sub-dimension of demand, achievement demands, also showed significant positive correlations with affective reward, affiliative companionship, and principled discipline leading to a corresponding positive relation with the global acceptance variable. These results suggest that a teacher need not sacrifice or compromise achievement standards in order to promote a positive and rewarding classroom experience. In fact, what is suggested is that this type of classroom climate is related to clear, strong achievement demands. The lack of significant relationship seen between achievement demands and the nurturance, as well as the affiliative companionship variables, could also suggest that some children would not perceive

the achievement demands in an accepting manner.

To summarize, as global variables, perceived acceptance and demand are unrelated and would appear to operate independently in the classroom. However, the teacher who is seen as less indulgent can also be perceived as more accepting. Also, the teacher who is perceived as highly demanding in achievement may also be viewed by the child as rewarding, friendly, and fair.

Comparing Grade Four Boys with Grade Five Boys

As the results indicate, the assumption of equal outcomes for grade four and grade five boys holds true for the behavior rating and for the overall perceived acceptance rating. However, in considering perceived demand there is a measurably significant difference found in the direction of less demand as perceived by grade five boys. This large difference is composed of grade five teachers being seen as; exerting far less power, significantly less demanding in achievement, and more indulging.

The additional analyses investigating classroom differences indicated one grade four group and one grade five group having significant differences on the demand variable. When these two groups were removed in a subsequent analysis, no significant differences were noted. In fact, removing the one grade five group alone led to a similar finding. This suggests that individual teacher differences in one grade five class and also in

one grade four class could account for much of the difference noted between grade four and grade five boys on the demand variables.

The significant difference noted between grade groupings on the affective reward sub-dimension does not find support in any of the other comparisons of acceptance variables or in the additional analyses. This finding could again be partially explained by individual teacher difference as the corresponding stimulus statements refer to fairly specific teacher behaviors.

It seems safe to conclude that the grade four and grade five boys in our sample form a relatively homogeneous group. The differences noted are generally explainable through individual teacher difference in one or possibly two classrooms.

Comparing Teacher-rated Hyperactive and Teacher-rated Non-Hyperactive Boys

These post facto analyses may be viewed as extensions of the previous correlational findings. The results of the correlations between hyperactive behavior and perceived demand acceptance, as well as perceived demand, pointed to high level relationships in particular directions. The results of testing for the significance of the differences between these two retrospectively identified groups allow for stronger statements to be made associating particular outcomes for hyperactive children.

The strong significant difference between these two groups

in the seriousness of the hyperactive behavior as judged by the teacher lends some further validity to the rating instrument used and to the soundness of the teacher's observations.

Teacher-rated hyperactive children perceived significantly less acceptance from teachers than their non-hyperactive peers which lends more direct support to the work by Loney et al., 1976, which showed hyperactive boys as seeing greater teacher disapproval directed towards them. Also supported is the previous discussion in the literature review on acceptance as a critical factor in children's perceptions of adult behavior.

By reviewing the difference outcome measures for the acceptance sub-dimensions, the nurturance variable, which accounts for the child's experience of comfort, accessibility and openness from the teacher, contributes most highly to the significance of the difference for the total acceptance variable. Affective reward, affiliative companionship, and principled discipline each indicate a comparable level of strength in their separation of these two groups. Again, these sub-dimensions are measured by asking for the child's perception of teacher behavior involving dynamics such as: friendliness, generosity with praise, personal interest, showing pleasure with the child, and demonstrated fairness (see Table 1).

If the child brings these types of perceptions into the classroom, as suggested earlier by Cox (1972); Toman (1976) and Van Kaam (1977), or if these perceptions represent a typical teacher response as experienced by the hyperactive child, then

promoting change requires a multi-faceted strategy involving child, teacher, and parents. Also apparent is the strong likelihood that the hyperactive child would experience the teacher as being angry with him, which may or may not be true. This possible mismanagement of anger by the teacher or this probable experience of anger by the child can easily be seen as a contributor to hyperactive behavior in a fashion similar to that proposed by Hembling, 1978; Miller, 1977; and Zrull et al., 1978.

On the measured difference of perceived demand a significant separation exists between hyperactive and non-hyperactive children. This difference is most evident on the sub-dimension of indulgence which indicates that hyperactive children perceive teacher behavior as much less indulging than do their non-hyperactive peers. Also significant is the difference noted by the increased perception of power shown for the hyperactive children. As suggested in the exploration of classroom differences as part of the additional analyses, individual teacher difference may partially explain the significant outcome found between these groups on perceived demand. These findings do however lend support to earlier suggestions by Ackerman et al., 1977; Flynn and Rapoport, 1976; Jacob et al., 1978; and Steinkamp, 1980, that the typical difficulties of impulse control manifested by the hyperactive child would be at odds with typical teacher goals of order and on-task behavior. This in turn could be seen to result in higher levels

of teacher intervention being directed at these children, resulting in perceptions of less indulgence being granted them and also greater power being exerted over them. To children, what is seen as greater indulgence given to their more compliant peers may be interpreted as greater acceptance. The resultant conclusion of preferential treatment would serve to exacerbate an already negative spiral of interaction.

In short, hyperactive children perceive teacher behavior as less accepting and more demanding than do their non-hyperactive peers. This might be attributed to differences in teacher styles of relating or to the child's faulty perceptions. Both possibilities would contribute to inflammatory dynamics between the teacher and the hyperactive child.

Additional Analyses

The results of the analyses of variance, which compared classroom groups on the main variables, indicate that the eight different groups have similar outcomes with respect to the behavior ratings and the perceived acceptance ratings. This outcome lends some support to the reliability of the measures employed and adds to the confidence of our findings. The significant variance noted on the perceived demand variable appears attributable to one grade five group and is at least partially explained by individual teacher difference. A further explanation could be found in considering situational differences for that particular class. Worth noting here is a

discussion with one grade five teacher during the field work part of the present study. This particular class was involved in numerous shifts as a result of timetabling problems and the teacher shared personal frustrations over the way things were compared to the "hoped for" situation. Although there is no affirmation available that this is the divergent group, this discussion gives some insight into possible contributing factors which were not accounted for in the present study.

The outcome of significant differences between schools on all three main variables appears explainable by the noted differences in distribution of hyperactive and non-hyperactive children. Differences on the perceived demand variable appear accounted for by the two most highly separated classroom groups being in separate schools as well as the higher incidence of hyperactive children occurring in the school which showed greater perceived demand. In addition, the discrepancy is accentuated by having a lower number of non-hyperactive children in the school showing less perceived demand. School differences found on the acceptance variable may also be explained by the variant numbers of hyperactive and non-hyperactive children identified in each school. Finally, the significant difference found on the behavior variable between schools is obviously consistent with the direction of occurrence of hyperactive and non-hyperactive children. The issue left unexplained is the reason(s) for the school differences in the teachers' behavior ratings of hyperactive behavior.

The significant difference between schools noted in the distribution of cultural groups could very likely contribute to both the level of children's behavior and to the nature of the teacher-child relationship. Childrearing patterns, adult-child communication styles, sex roles, and attitudes toward authority figures would be some of the factors related to cultural background and would also have some bearing on the teacher-child interaction. Results of the present study may be unduly influenced by uncontrolled cultural variation in the sample. Other variations in socio-economic or familial patterns may also be operative and are not accounted for.

Summary, Conclusions and Suggestions for Further Research

The major focus of the present study centered on exploring teacher-child interaction from the child's viewpoint and, in particular, investigating the relationship between the child's perceived acceptance and perceived demand and teacher ratings of hyperactive behavior. A secondary thrust sought to determine the significance of differences in these perceptions of teacher behavior between a group of teacher-rated hyperactive boys and a group of teacher-rated non-hyperactive boys, all enrolled in regular elementary classrooms.

An extensive review of literature related to hyperactivity promoted the integration of key findings as applied in the present study. The Conner's Abbreviated Teacher Questionnaire (Teacher Inventory) was used to assess the level of hyperactive

behavior following the most widely adopted recent practice of defining hyperactivity behaviorally. Choosing to focus on the child's perception of acceptance and demand from the teacher was the result of several other significant trends in past research. An interactional model of viewing hyperactivity combined with a focus on its social aspects as this relates to a particular situation has been strongly suggested. Further suggestions point to a focus on the hyperactive child's experience within a given situation as being sorely needed. This study used a portion of the Teacher Behavior Questionnaire (Children's Inventory) to assess the child's perception of teachers' classroom behavior along the dimensions of acceptance and demand.

There is a significant relationship between hyperactive behavior and perceived acceptance in the direction of less acceptance being experienced by the more hyperactively behaving child with particularly strong association noted in the nurturance sub-dimension. The higher levels of hyperactive behavior are also related significantly to perceptions of greater demand as contributed to most strongly by perceiving teacher behavior as less indulging. In a similar fashion, teacher-rated hyperactive children perceive the teacher as less accepting and more demanding when compared to their non-hyperactive peers. It was also determined by the results obtained that perceived acceptance and perceived demand operate independently within the classroom setting.

The interactional model of viewing hyperactive behavior appears fruitful as is the exploration of the social-situational aspects of the problem from the child's perception.

The results of the present study suggest directions for future research. It would be helpful to determine the uniqueness of each child's perception of adult behavior as separate from the classroom teacher. This might be accomplished by administering a "Parent Behavior Questionnaire" to the children or by administering the Teacher Behavior Questionnaire at the onset of a school year as well as later on. The results of these measures would help to separate out individual teacher differences and parent-related influences. A further direction for research could involve comparisons of children's self-reports with those of observer ratings and also teacher ratings of their own behavior. Any discrepancies would become quickly obvious and these results could then be followed further. Finally, cultural variation, socio-economic factors, and familial styles need to be controlled in subsequent research. The uneven cultural distribution between schools very likely had some influence in the present study, and all these factors would certainly appear to be related to behavior and adult-child interaction.

Some implications for classroom management of hyperactively behaving children arise from this study. It would appear that the teacher who deals with hyperactive behavior in children might increase his effectiveness by concentrating on ways to

communicate nurturance, caring and acceptance to these children. This involves personal growth within the teacher, which is needed in the focus of teacher training programs. The child experiences acceptance from the teacher through the words the teacher directs at him or the words spoken about him, and also through non-verbal teacher behaviors. In other words, verbal and non-verbal strategies need to be developed by the teacher who desires to alter the differing perceptions of hyperactive children.

Also pertinent is the finding that perceived acceptance and perceived demand operate independently within the classroom. This implies that a teacher need not sacrifice achievement demands or firm control in order to communicate acceptance. In fact, the present author suspects that the controls may be one means to demonstrate caring if this is communicated clearly to the child.

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APPENDIX A

TEACHER INVENTORY

INSTRUCTIONS: Listed below are items concerning children's behavior or the problems they sometimes have. Read each item carefully and decide how much you think this child has been bothered by this problem at this time: NOT AT ALL, JUST A LITTLE, PRETTY MUCH, or VERY MUCH. Indicate your choice by filling in the space (-) in the appropriate column to the right of each item.
ANSWER ALL ITEMS

	Not at All 0	Just a Little 1	Pretty Much 2	Very Much 3
1. Restless (overactive)				
2. Excitable, impulsive				
3. Disturbs other children				
4. Fails to finish things he starts (short attention span)				
5. Fidgeting				
6. Inattentive, distractable				
7. Demands must be met immediately; frustrated				
8. Cries				
9. Mood changes quickly				
10. Temper outbursts (explosive and unpredictable behavior)				
How serious a problem do you think this child has at this time?				

Data:- Sex: Boy _____ Code No: _____
 Girl _____

Age: Yrs. _____ Mos. _____

Cultural Background: _____

APPENDIX B

CHILDREN'S INVENTORY

Code No: _____

INSTRUCTIONS: Read silently each statement below as you hear it being read out loud. Then check the column which shows how true you think this is of your teacher.

	Always Often	Fairly times	Some Ever	Hardly Ever	Never
	1	2	3	4	5
1. Comforts me when I have troubles.					
2. Says nice things about me to other people.					
3. Teaches me things I want to learn.					
4. Does fun type activities with me.					
5. Expects me to help around the classroom.					
6. Insists that I get permission before I go to the bathroom.					
7. Insists that I make a special effort in everything.					
8. Is just and fair when punishing me.					
9. I can talk her/him into most anything.					
10. Is there for me when I need him/her.					
11. Is very friendly with me.					
12. Helps and encourages me with my own special interests.					
13. Is happy when with me.					
14. Tells me what I have to do when my regular schoolwork is completed.					
15. Makes me do my work exactly when and how she/he tells me to.					
16. Insists that I try to get good grades.					
17. When I must do something she/he explains why.					
18. Lets me off easy when I misbehave.					
19. I can talk with her/him easily.					
20. Praises me when I have done something good.					
21. Helps me with my schoolwork when I don't understand something.					
22. Enjoys talking with me.					

