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A descriptive investigation utilizing a family systems perspective to study elementary school children who frequently become seekers of nurse support (S.O.N.S.) and their families

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A DESCRIPTIVE INVESTIGATION UTILIZING A FAMILY SYSTEMS PERSPECTIVE TO STUDY ELEMENTARY SCHOOL CHILDREN WHO FREQUENTLY BECOME SEEKERS OF NURSE SUPPORT (S.O.N.S.) AND THEIR FAMILIES

The College of William and Mary in Virginia

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A Descriptive Investigation Utilizing A Family Systems Perspective
To Study Elementary School Children Who Frequently Become
Seekers of Nurse Support (S.O.N.S.) And Their Families

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
David Bruce Fletcher
Spring 1986
APPROVAL SHEET

We the undersigned do certify that we have read this dissertation and that in our individual opinions it is acceptable in both scope and quality as a dissertation for the degree of Doctor of Education.

Accepted May 1986 by

Ruth K. Mulliken, Ph.D., Chairman

Charles O. Matthews, II, Ph.D.

Roger R. Ries, Ph.D.
DEDICATION

To my family, present and past generations,
who have combined to show me that I am indeed
a social being and a product of the family
structure, this dissertation is dedicated with
appreciation and love.
ACKNOWLEDGEMENTS

There are many individuals who have proven more instrumental than they will ever know in the completion of my doctoral studies. To these people whose faith in me was unwavering, I extend my most sincere gratitude.

To Dr. Ruth Mulliken, my committee Chairman, who has over the last thirteen years been a mentor, a boss, a supporter and most of all a friend.

To Dr. Chuck Matthews whose curiosity and intellectual explorations in the areas of counseling and philosophy were a personal inspiration.

To Dr. Roger Ries who helped me to see that knowledge is power and it is my responsibility to use it wisely.

To the Health Services Department and the other staff members of the public school system of Hampton, Virginia without whose support and cooperation this study could never have been realized.

To my friends and loved ones who encouraged and supported me through the ups and downs involved in advanced study and personal growth.
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INTRODUCTION

A. Justification for the study.

The importance of a sound education for the youth is one of the main values of our cultural system. It is also felt to be important that the acquisition of knowledge should proceed smoothly, with as few interruptions as possible. Children who are disruptive, act out or otherwise obstruct the flow of learning both to themselves and to the other students are often referred for specialized services. It is generally agreed that intervention with these students should be initiated as early as possible so as to minimize the long term effects of the child's difficulty. Problems which are not resolved, educational or social/emotional in nature, frequently become more and more acute until the student must either be removed or placed into a more specialized environment.

Educationally, the children who excessively are seekers of nurse support (referred to hereafter as S.O.N.S.), are of concern to the staff of the schools. Their seeking of the nurse's attention causes them to miss valuable instructional time, tends to disrupt their classes (leaving and returning), and takes the nurse away from legitimate medical problems. If these children can be identified as a unique group, it may become possible to develop more adequate intervention and prevention strategies for both the children and their families. Early redirection of elementary school aged S.O.N.S. and their families could lessen the chance of the health issues becoming more central and eventually even debilitating.
The current study attempts to provide information to the professional and the educational communities about young children who show excessive concern with their health. The intent is to determine if the children who frequently seek the school nurse or who complain excessively to their teachers are different from children who do not have this concern. Also under investigation are factors regarding familial interactions and views about health issues.
B. **Statement of the problem**

Are there characteristics that distinguish S.O.N.S. from controls at the elementary level such that they could be classified as a unique clinical population? Are the parents of S.O.N.S. different from control parents and if so, on what variables?
C. Theoretical rationale

Much of the theoretical basis for this study was extracted from the field of family therapy. The importance of the impact of the family upon the developing individual has increased in its acceptance during the last several decades. How the family deals with the individual’s desires to change and grow while trying to keep its influence strong has been felt to be the cause of certain patterns of dysfunction.

Classical/traditional methods in mental health and therapy developed the perception that the individual was the site of pathology. The problems and conflicts that the individual was experiencing were within the person and the therapy concentrated on intrapsychic exploration. Minuchin’s view of humans, in contrast, is predicated on his opinion that individuals are not isolated but rather are acting and reacting members of a variety of social groups, the most significant of which is their own families. The totality of man’s experiences is determined by his interaction with his environment. The person’s difficulties are viewed in the framework of a transactional theory between the individual and his family and/or his whole environment (Minuchin, 1974).

From the literature in family therapy it is thought that the individual who is sick has considerable power in a family environment. For example, Bowen (1976) points to the patterns of involvement and interaction which revolve around the member who has the "sick role". This person’s attitudes and behaviors are a result of family issues and in turn can have a strong impact on the family’s actions toward other members and toward the outside world.
Most family therapists concentrate their interventions on the family system. They do, however, recognize the influence of other environments or systems which impact on the family's difficulties. Andolfi (1979) notes that the systems which interact significantly with the family include the school, work, neighborhood and friends. Ehrlich (1983) feels children link the family with the school and as a result, the school may become "a natural environment for the transferred and displaced symptoms of the child's family struggles" (p. 191).

Theorists such as Minuchin (1970), Waring (1979) and Goldenberg and Goldenberg (1980) examined patterns of communication among members of dysfunctional families. Their approach placed an emphasis upon how the family system maintains a balance through the development of rules to regulate the members. Minuchin has done extensive work (1970; 1975; 1978) using his theoretical framework while working with families of children who were diabetic, anorexic and asthmatic.

A basic theme to Minuchin's structural family theory is the view that "a family is more than the individual biopsychodynamics of its members" (Minuchin, 1974, p. 89). The family members relate to each other through a series of feedback mechanisms which in turn govern their transactions. These trans- actions and mechanisms structure the family to form a reality which is different from the reality of the individual members. The transactual patterns regulate the members' behavior. The patterns become rules which have been developed over time and regulate what is permitted and what is forbidden in the family relationship (Andolfi, 1979).
Minuchin's approach is not "linear" for it does not focus on one individual, rather, it looks at the person in context. The systems model "analyzes the individual's psychological and behavioral makeup by focusing upon the influences family members have on one another from the individual's earliest life to the present" (Goldenberg and Goldenberg, 1980, p. 119). This view sees the family as an open system composed of units held together by rules or patterns of transactions and by interactive functions that have a dynamic relationship to each other.

Family structure, according to Minuchin (1974) is regulated by transactual patterns which in turn are maintained by two systems of constraint. The generic system involves the universal rules governing family organization. This includes power hierarchy and interdependency between husband and wife. The second system is idiosyncratic to the family and has developed over the years. This involves the mutual expectations of the various members and through these constraints, the family maintains itself. Using preferred patterns, the family resists change and calls for family loyalty, and guilt-inducing maneuvers are used when any deviation in the membership goes beyond the system's level of tolerance.

The family must, however, "be able to transform itself in ways that meet new circumstances without losing the continuity that provides a frame of reference for its members" (Minuchin, 1974, p. 52). To continue to exist, the system must have a sufficient range of patterns, family subsystems, and boundaries. Minuchin uses the following terms to describe the family dynamics:
Adaptation refers to the family's ability to employ alternative transactional patterns when change is needed. This ability allows the family to maintain homeostasis when faced with external or internal pressures.

Transaction patterns are the sequences of family interaction which are repeated. These are the rules that maintain the family stability.

Subsystems are made up of groupings of the individuals in the family. Dyads such as husband-wife or father-son can be subsystems. These systems are the ways the family carries out its functions for support, nurture, and socialization of its members.

Boundaries are the rules defining who will belong to a subsystem and how they will behave. Boundaries must be clear so as to prevent interferences, but flexible enough to allow contact across subsystems. Assessment of boundary clarity is central to structural family therapy and theory. The enmeshed family is overly involved with itself, while the disengaged family is overly rigid in its boundaries and therefore the members are too distant.

Minuchin incorporated his theory of family dynamics into a model of family development (Minuchin and Fishman, 1982) in which the family is not a static entity but is constantly influenced by demands for change. There is an evolution as the family ages, moving alternately through periods of disequilibrium and periods of homeostasis. The major periods in the family's development are as follows:
Couple formation involves the new husband-wife as they deal with conflict over changing from individual rules to patterns appropriate to a couple. There is a lessening of individuality during this stage.

Families with young children find new coalitions developing; parental, mother-child, father-child. Conflicts over time and loyalties may develop and need to be resolved before cross-generational problems develop. As more siblings are born a new family map is developed with new subgroups.

Families with school-age or adolescent children constitute the third stage. Issues of autonomy and control arise here as the child starts to demand accommodation from the parents. The issues of school and peers are central at this stage. Changes in parents themselves should be noted as midlife changes are common.

Families with grown children find the couple again without children, at home, faced with redefining their roles to each other. The parents must also recognize how they are going to relate to the grown children and possibly to grandchildren.

Frequently, when there is a problem in a family, it is because the "patterns do not change to meet members' changing needs or to deal with environmental factors" (Nelson, 1983, p. 17). Difficulties are seen in dysfunctional alignments, inappropriate distribution of power, or in enmeshment or disengagement.

Minuchin, Rosman and Baker (1978), while working with families who had psychosomatically involved children, began to postulate a "typical" family profile.
The children had disorders such as anorexia nervosa, brittle juvenile diabetes or stress-induced asthma and their families showed the following characteristics of enmeshment, overprotectiveness, conflict avoidance and rigidity. Over-utilization of the family physician's services was noted as was a tendency toward trying to incorporate their physicians in their dysfunctional style. Frequent visits to the doctor's office were common as was consulting with any number of different physicians.

The first extra-familial situation where a child's difficulties may become noticed is in the school. Writers such as Frerichs (1969) and Thompson (1977) have noted how family stress, being a product of a broken home and even inconsistent adult management can lead to the start of excessive non-attendance in school as well as psychosomatic problems. Minuchin and Fishman (1982) see the school years as most stressful to the family as the child is becoming more autonomous and new balances must be arrived at in the family. Problems in the home centering on the resolution of these issues can cause the child's school performance/behavior to suffer. Minuchin's work (1975, 1978) points to how the family organization is often related to the start of psychosomatic difficulties which in turn help maintain the balance of the family.

While the literature describes work with the families of children who have been referred to clinics who have chronic illnesses, little has been done to investigate these groups before the dysfunction becomes severe. Therefore, the present research explores the relationship between children's school health concerns/actions and the views of their parents.
D. Sample and data gathering procedures

The sample was drawn from a heavily-populated urban school system with a total population of 19,795 students. Ten elementary schools were targeted by the school system's research department and the pupil accountability department as representing a cross section of the city's population in the areas of economic, racial and cultural influences. The school nurses selected the children for the study based on the frequency of their coming to the clinic for support. The classroom instructor also sent a list to the nurse of students who, while they were not sent to the nurse, complained frequently in class about health concerns. The S.O.N.S. were randomly matched with other children for such variables as age, sex, race and grade. Academic achievement levels were collected by using the system-wide testing program of the Standards of Learning (a criterion referenced test) and the SRA when available. The two groups of children were administered the Moos Family Environment Scale and the Revised Manifest Anxiety Scale. A random sample of the two groups was taken and the parents of the children were interviewed by a trained interviewer using the Moos and the Personality Inventory for Children.
E. **Definition of terms**

For the purpose of this study, the following definitions apply.

**Elementary School Age Children.** This group of students will be in grades kindergarten to sixth and between the ages of five and eleven.

**S.O.N.S.** To be included in the study, students must make contact with the nurse or other school staff member three or more times a week regarding health issues. The student's medical complaint must be of such a nature that it is unconfirmable, i.e., no fever, cut, bruises, etc.

**Cohesion.** This term will mean "the degree of commitment, help and support family members provide for one another" (Moos, 1981, p. 2) as measured on the Moos Family Environment Scale. High cohesion will reflect Minuchin's enmeshed family.

**Control.** This term will reflect Minuchin's rigidity in family interactions. Moos uses it to measure the importance of rules and procedures in family life.

**Expressiveness and Conflict.** These terms are used by Moos to describe the extent to which the family openly expresses anger and feelings. Minuchin would view these areas as characteristics of conflict avoidance.

**Independence.** Minuchin's term overprotectiveness views the family as not allowing the members to handle their own problems. Moos looks at the degree of assertiveness and self-sufficiency.

**Somatic Concern.** This scale on the Personality Inventory for Children (PIC) taps health related variables. Lachar and Gdowski (1979) include appetite, energy, strength and frequency of and adjustment to illness.
Family Relations. The FAM scale on the PIC measures family effectiveness and cohesion. These issues are similar to those in Minuchin's theory.

Defensiveness. The DEF scale on the PIC was constructed to measure parental defensiveness about their child's behavior. The overprotective and enmeshed family would cope with stress by employing this mechanism.

Anxiety. This PIC scale taps the pressures due to frustration and irrational fears. The family which deals with conflict by avoidance produces anxious members. The Revised Children's Manifest Anxiety Scale (RCMAS) also looks at anxiety but from the perspective of the child. The RCMAS taps physiological anxiety, worry/oversensitivity, social concern and has a lie scale.
F. Limitations of the Study

There are several limitations inherent in the study. First of all is the geographical limitation presented by the selection of the sample population from one school system. While the City of Hampton is representative of an urban system in the Tidewater area, it may not be legitimate to generalize the results of the study to other cities or states.

Second, it should be recognized that there is little agreement among family theorists as to what various terms mean when they are describing patterns, defenses, needs, etc. Different theorists will not always agree on what constitutes a dysfunctional family nor will they agree on how to measure this area.

Third, the difficulty of getting families to allow a study to be performed on their child who is not actively encountering problems was recognized. The interviewing of the parents of the S.O.N.S. faced the same limitation plus the added difficulty of eliciting personal information from the members.
G. **Hypotheses.**

The testing of the following general hypotheses was to determine the existence of statistically significant relationships:

1. Children who are S.O.N.S. differ significantly from children who do not seek nurse support in mean academic achievement as measured by performance on the reading section of the city-wide Standards Of Learning Test (SOL).

2. There is a significant difference in the scores on the Revised Children's Manifest Anxiety Scale (RCMAS) between the S.O.N.S. and the control group.

3. There is a significant difference in the scores on the Moos Family Environment Scale between S.O.N.S. and the control group.

4. There is a significant difference in the scores on the Personality Inventory for Children (PIC) between the families of the S.O.N.S. and the families of the control group.

5. There is a significant difference in the scores on the Moos Family Environment Scale (FES) between the families of the S.O.N.S. and the families of the control group.

Given the existence of a clinically distinct group S.O.N.S., the following set of hypotheses will be tested to examine the effects of sex and ethnicity as factors in the relationship between groups (control and S.O.N.S.) and scores on these instruments.
6. The factor of sex contributes significantly in explaining differences in the scores of the two groups on the three test instruments.

7. The factor of ethnicity contributes significantly in explaining differences in the scores of the two groups on the three test instruments.

8. The combined effects of the factors of sex and ethnicity contribute significantly in explaining score differences between the control and S.O.N.S. groups on the three test instruments.
Organization of the remainder of the study

The research study will be developed in five chapters. The first chapter includes background information about the problem under examination and the theoretical framework from which the issue will be examined. Information regarding the sample groups, the procedures used for data gathering and the limitations noted in the study are presented. The terms used in the work are defined and the general hypotheses that were explored are stated for the reader.

Chapter two is composed of a review of the literature and research relevant to the project. Chapter three outlines the methodology employed, the research design and the specific null hypotheses tested. Chapter four presents the results of the analysis regarding the specific hypotheses. The last chapter in the project consists of a summary of the study, a review of the conclusions and various limitations regarding the results.
A. Historical development and theoretical overview

Kellner (1979) divides psychosomatic disorders into two groups, psychophysiologic disorders which are disturbances of function without damage to the tissues and psychosomatic diseases which are physical diseases in which emotions can act as precipitating or aggravating factors plus somatic complaints without organic disease. The etiologies of the two groups differ as do the psychotherapeutic strategies used to deal with them. The author discusses a number of strategies for the treatment of psychophysiologic disorders and in so doing outlines the various theories applied to this problem. The areas he centered on included empathy, explanatory theory, traditional psychotherapy, learning theory, and family therapy.

Acceptance and empathy are important parts of any psychotherapeutic relationship, but they are central to client-centered theory (Truax, 1965). While there is no evidence available that empathy is effective in the management of psychophysiologic difficulties (Kellner, 1979), many patients did feel they were understood. To find a physician who accepted the patient's distress as genuine helped establish confidence and reduce anxiety. No doubt this acceptance provided the client with some degree of relief but it did not solve the psychosomatic problem.

Explanatory therapy attempts to teach the client about the relationship
between his emotions and his somatic symptoms. Draspa's (1959) work with adults with muscular pain in which treatment dealt directly with the symptoms yielded a better outcome than a control group. Information given the patient must be accurate, emphasizing that only a small portion of somatic symptoms are caused by organic pathology. The information must be given repeatedly to the patient so the person will remember the accurate material. The patient is also aided in re-directing his attention to other things rather than to the somatic concern. In explanatory therapy the comments (and errors) of previous doctors are clarified and the patient is helped to understand that it will take time for his unlearning of behaviors to happen.

Traditional insight/psychotherapy focuses on the symbolic meaning of the symptoms, often viewing them as a consequence of a conflict or a displacement of affect. Raab (1964) showed that patients with somatic problems are less likely to improve than other patients with just emotional problems. As therapy progresses, "the conflicts or stresses which are relatively minor while the patient was severely distressed with somatic symptoms had acquired a greater importance in the patient's life once the somatic symptoms subsided" (Kellner, 1979, p. 98). Insight is apparently less productive with somatic problems than other techniques which focus on the problem directly.

Reusch (1948), felt that psychosomatically ill people cannot communicate verbally in an adult manner, and have regressed to the use of body language. Initially, these disorders were seen as conversion reactions having symbolic meaning representing some repressed affect or concept. Grinker
(1961) in Frank (1967, p. 8) clarifies this escape or regression further by stating that "... in the presence of anxiety there is a kind of flight which is not achieved by the movement of the whole person in space, but by regression and a return to an earlier differentiated state of organization--in other words a flight through time." It is a time consuming process to reverse the regression process and return the individual to his normal level of functioning.

Parker and Lipscombe (1980) found that there were relationships between how the client was treated when he was a child and his current behaviors of dependency, hypochondriasis, and utilization of primary physicians. Individuals who were "high on hypochondriasis (on the Parental Bonding Instrument) were distinguished by scoring their fathers as overprotective and their mothers as caring and, when ill, remembering their mothers as highly likely to call the doctor and both parents as evidencing sympathy at the time" (p. 362). These results could be due to several mechanisms according to Parker and Lipscombe. First, the child could show more dependent and hypochondriacal behaviors and so elicit differential parental characteristics. Second, high levels of anxiety in a family could influence parental characteristics. A third explanation links greater parental involvement with higher levels of dependency and hypochondriasis. It was felt by the researchers that the parents' responding to an illness as if it were a real physical illness tended to "encourage a somatic interpretation of stress symptoms thus promoting any hypochondriacal tendency" (p. 363).

Bianchi's work (1971) in the area of disease phobia also noted the impact of parental overconcern. A child's fear or phobia was found to be increased
when there was parental oversolicitude, overprotection and excessive babying.

Baker and Mersky (1982) found that maternal over-protection was seen significantly more in a hypochondriacal group than in a control group. The authors further hypothesized that in the treatment group "an absent, distant or rejecting father may make it more likely for the person to be influenced and controlled by an over-protective mother" (p. 287). While traditional therapy may not be the most expeditious treatment, the involvement of the mother in the child's illness certainly would be appropriate material for this method. There is a strong interest in finding pathological deviations in the parents of psychosomatic disturbances, but the results are mixed at best. Bloch's work (1964), however, does show a significant correlation among psychosomatic physical and psychiatric symptoms in self-descriptors of maternal psychopathology. These results would suggest that psychogenic factors in the mother are significantly related to the child's psychosomatic difficulties.

Learning theory, which is also included in explanatory therapy, works with clients to show them that they have learned to be highly sensitive to the part of their bodies where their concern is located. The unlearning process can be difficult and time consuming if the problem is one of long duration (Kellner, 1979). However, a number of researchers and practitioners have had considerable success with this approach to somatic problems. Mansdorf (1961) completely eliminated an eight-year-old girl's frequent physical complaints in less than three weeks. A contingency management system program of applying or withholding parental attention dependent upon the child's behaviors proved very successful.
Miller (1969) suggests that "physical illnesses in children can, to a degree, be learned through parental mismanagement," especially in anxiety-evoking situations. An example is separation anxiety such as in school phobia which can frequently cause somatic complaints. Gardner (1967) used a similar approach to eliminate psychogenic (nonorganic) seizures in a ten-year-old child. The parents were taught behavior management techniques in three one-hour sessions and were then able to work effectively with their daughter.

Creer and Burns (1978) used a series of behavioral techniques to rehabilitate children with chronic bronchial asthma. The thrust of the program was to teach self-management so that the youngsters learned responsibility for their health. It was found that the patients used a large number of excuses to avoid taking the necessary medications. Among the factors included were the belief and attitude maintained by the patient and/or family regarding the illness and perceived social stigma claimed by the patients and their families. Many of the children and their parents denied they had been adequately informed about how to take the medications properly.

The author used a three-stage program to teach medicine-taking compliance. First, the youngsters had to be monitored by a counselor who marked a data sheet. Second, the patient held the medication and the record sheet and the counselor checked her adherence to the instructions. The final stage saw the younger autonomous with only variable interval checks by the counselor. It was also found that the child's acceptance of responsibility for medications did transfer to the home environment.
Wooley, Blackwell, and Winget (1978) used relaxation training and desensitization in eliciting stimuli and then employing stimulus control, operant punishment, and reward techniques to work with patients displaying the psychosomatic behaviors of vomiting, asthma attacks, irritable bowel, and headaches. The authors found that the patients exhibited a number of behaviors which elicited care and removed the patient from a responsible role. These included the following:

1. demands for care and attention, i.e., tests, medication and help with daily activities;
2. displays of helplessness, i.e., inactivity, protests of inability and unresponsiveness;
3. veiled hostility, i.e., anger is evident but denied by the patient;
4. threats to harm oneself or leave treatment;
5. argumentativeness, i.e., bickering continuously;
6. dividing of professional staff, i.e., pitting one staff member's opinion against another's;
7. silliness, i.e., irrelevant childish remarks; and
8. excessive compliance, i.e., expressions of overrespect and appreciation.

The patients were rewarded when care-taking responses were minimized and self-control was shown. Social skills were discussed and demonstrated and each patient had to perform the new behavior in the social context. Family therapy was also used to help develop contingencies that were supportive of the patient's new independence to change the family members' views of the patient.
It was noted in the results of the study that all of the successful clients and none of the failures came from intact homes where intact homes were defined as the patient either being married or under 18 and living at home with both parents. It was hypothesized that the clients (without families or single) who did not make progress could be using the medical care system as a family substitute and consequently, a new approach to this population may be indicated. Interestingly, patients who had participated in family therapy during the behavioral treatment improved more (p < .05) than those who did not (p. 389).

Kellner's (1982) approach, while broken into different areas for discussion, is actually a combination of the various methods, aimed at dealing with the psychosomatic complaint. Even Wooley, et al (1978), who are predominantly behavioral in approach, make use of a more global or interactional method when dealing with somatic patients.

Schneider and Wulliemier (1979) continue this multi-method concept when they advocated an "interdisciplinary" approach to the psychosomatic client. Here the use of bio-feedback is explored in conjunction with encouraging insight and verbalization by the patient. The team of professionals who collaborated on the client included physiotherapists, psychiatrists, and somaticians. It is the authors' feeling that only when this approach is developed will the "psychosomatic patient in his psycho-familio-socio-professional and medical context" (p. 16) be understood and appropriate therapies developed. The writers stress the "ideology of the patient" rather than that of the therapist as a means to solving the psychosomatic problem.
Titchener, Riskin, and Emerson (1960) attempted to bridge the classical theoretical gap to a family approach when they discussed object relation factors in psychosomatic disorders. Dr. George Engel, an authority in this area, feels that the psychological condition in ulcerative colitis is "an affective state characterized by helplessness and despair arising from a deep disturbance in a key object relation which is lost or threatened, or whose loss is imagined" (p. 402). The main individual in this process is the patient's mother. The difference noted in this approach is that it is "not simply the mother's personality, but the way she acts in the particular relationship with the particular child in a particular period -- all in the context of the whole family's psychodynamic patterns" (p. 403). It is the "family's mother" whose relationship to the youngster is a product of the family system. Titchener, et al's (1960) work is unfortunately nonempirical and lacks internal validity, however, the study does emphasize interactional patterns among all family members with some determination for the focus of the conflict placed on constitutional factors.

Weakland (1977) emphasizes how, despite the trend toward a more interactive model, the majority of the psychosomatic research is still "concerned with an individualistic, or at most, a mother-child orientation" (p. 265). Family therapists and researchers should devote more attention to the problems of physical illness, he recommends, thereby promoting the family interactive approach. The author feels there are at least three general ways in which interactional patterns might prove significant. First, "a certain sort of interaction, presumably continuing over some length of time, might itself constitute the
sufficient conditions for the beginning of a certain disease" (p. 267). A second way is that "a certain sort of interaction might constitute a necessary but not sufficient condition for the onset of a certain disease" (p. 267). Finally, "there might be diseases for which certain sorts of interaction, while not necessary, would contribute as sensitizing or predisposing influences" (p. 268). Weakland's recommendations for research into these areas include the family's conception of the disease, disease patterns in other generations, how the disease is presenting a problem, and how the family and patient go about handling the problem.
B. Critique of historical development and theoretical overview

The general trend of the articles reviewed was that frequently the client was not treated with a single approach/theory. Even though the authors indicated that their work was primarily of one "school"--i.e., Kellner (1982) "individual psychotherapy," Wooley (1978) "learning theory," Schneider and Wullemier (1979) Freudian "psychotherapy,"--frequently a number of techniques were utilized. Wooley, for example, included that use of family therapy and medication, while Kellner used no fewer than eleven methods. It is virtually impossible to evaluate the power of individual techniques and their theories when they are so contaminated.

All of the patients studied were either hospitalized patients or referrals from mental health centers. This population contained a number of different problems besides simple hypochondriacal/psychosomatic concerns and therefore, it is hard to evaluate the success of the treatments on the identified problems.

The number of individuals studied ranged from one (Mansdorf) to over 300 (Wooley, et al). It is again most difficult to generalize from a case study approach, although it did show that Mansdorf's techniques could work well with a certain child's problem. Titchener, et al's work (1960), was also limited by the case study approach but their results were positive.

Most of the studies showed a trend toward looking at the client's support systems as well as viewing his family as a part of the problem/solution. The move away from the view of the isolated individual with a distinct problem seems to be
evolving to a more family-social dynamic in which the members relate and interact with each other. The impact of the family's situation/environment or "system" is being recognized more as an important contributor to the child's psychosomatic illness.
C. Review of the literature on treatment and theory - family therapy

Grolnick's (1972) extensive work traces the historical trend away from the view of the psychosomatic client as a self-contained individual to that of a patient with certain "somatic reaction patterns" in a social-interactive situation. His article spans the growth of the field from the individual intrapsychic model up to the family interaction movement. Richardson (cited in Grolnick, 1972, p. 466), one of the earlier interactive authors, is quoted as outlining a "reciprocating system" between two people in which they react to each other in a predictable manner. He saw relationships as complicated interlocking systems "which tend to make potential illness active or to continue one which was already begun -- when there are children they get sucked into the conflict and may be forced into roles to which they are ill adapted." Richardson's foresightfulness also saw families who were of "less rigid structure" finding it easier to remain in balance and consequently producing fewer psychosomatic illnesses. Gehrke and Kirschenbaum (1967) saw families who were out of balance, having to repress oral aggressive feelings. There was a need in these dysfunctional families to have everyone feel the same way about all things, thereby avoiding any overt conflict.

Murray Bowen is a major family theorist who incorporated the concept of balance into many of the aspects of his theory. It was Bowen's observation that the more acute the disturbance, the more out of balance was the individual's important relationship systems, most particularly, the family system. As Kerr (in Gurman, 1981) stated, "the type of symptom that develops is frequently a
complication or exaggeration of the mechanism that has been used to preserve the system balance in the first place” (p. 235).

The concept of balance is found throughout Bowen's theory, possibly nowhere more central than when discussing differentiation of the individual. Human relationship systems must be able to balance the force towards individuality or autonomy versus the force towards togetherness or fusion. The force toward intellectual versus emotional functioning is another balance which is present during the differentiation process, according to Bowen (in Guerin, 1976). When the individual within a family system has balanced the degree of individuality and togetherness, he will be less anxious and be able to retain the choice to behave emotionally or intellectually in a given situation. A reasonable separateness between emotion and intellect in emotionally charged situations reflects a high degree of differentiation.

A family encounters problems when the members are not able to maintain a separateness and "the person's thinking, feelings, and actions are dependent on or influenced by the emotionality of other people" (Kerr, 1981, p. 238). There develops an emotional reactivity to what the others in the system do and say as well as an emotional pressure to feel and act like the other family members. The relationships which are highly fused cause considerable amounts of anxiety for its members and symptoms appear when the level of adaption is exceeded. Bowen (in Guerin, 1976) lists three patterns where the amount of undifferentiation in marriage comes to be manifested in symptoms:

Marital conflict in which neither adult gives in to the other or in which neither
is capable of an adaptive role. When the conflict is between the spouses, there is little projection of the problem onto the children.

**Dysfunction in one spouse** is seen when the adaptive member loses the ability to function. The children can usually remain outside the problem although they may inherit a life pattern as caretakers of the sick parent.

**Impairment of one or more children** happens when the parents project their undifferentiation to the other members of the family.

Bowen (1966, 1976) and other authors (Kerr, 1981; Hall, 1981) note a number of interlocking concepts which are basic to this theory of understanding family systems. These processes are the "roots" of healthy as well as dysfunctional families.

**Triangles.** These are three-person emotional configurations or basic family building blocks. Generally two people (i.e., mother and child) will join with one member (i.e., father) outside. There is constant shifting of the triangles during periods of stress with outsiders being triangulated in when family combinations have been exhausted. Frequently, the family will repeat the triangle sequences even through several generations. Sibling position as well as seniority, sex and individual characteristics can be important predisposing factors in the process.

**Family Projection Process.** This is the concept in which parental emotionality defines what the child is like. This allows the parents to stabilize their functioning at the expense of the child. The area of focus can be health, emotional well-being or school success and it is often related to the parents' own
experience in their original families. The focused child is triangulated in the fused togetherness of the parents.

**Multigenerational Transmission Process.** This process describes broad patterns of behavior between members of different generations in the same family. Better differentiated families experience less anxiety, are more adaptive, use less projection and have fewer chronic physical, emotional or social problems.

**Sibling Positions.** Toman's (1961) work is cited by Bowen (1976) as describing how children grow into a role dictated by their position in their family system. Examination of the family history and charting the members help make this concept more visible.

Waring (1977) interprets Bowen's theory to indicate that the child who becomes ill with a physical or psychosomatic illness may be the child who is viewed as behaviorally similar to a member of the parent's family. This multi-generational approach may also incorporate the concept of sibling position which would be similar to that of an extended family member. The author indicates that Bowen's concept of family triangles "directs our attention to the patterns of involvement and interaction of the family itself" (p. 255).

The child who has the "sick role" may be holding the family together and consequently, may be conferred with enormous power. Somatic problems usually happen to individuals who are poorly differentiated, according to the author, and they may occur as a reaction to too much closeness. Witkin (1962) supports Bowen's statements by indicating: "Persons better able to perceive and
conceptualize themselves as discrete from the surrounding field and to perceive the field as organized, are on a higher level of psychological differentiation than those whose reactions are more dependent on their current context" (p. 477).

Grolnick (1972, p. 478), based on his search of the literature of the family perspective toward psychosomatic illness, arrived at five general conclusions:

1. Family relationships influence the onset and course of psychosomatic illness and of many organic illnesses.
2. The family functions as a system in relation to the physically ill member.
3. Families with greater rigidity of structure are associated with increased psychosomatic illness and perhaps with chronicity of illness.
4. It was of relevance that these families repress or suppress affect.
5. Mothers usually play a central role in labeling illness and the father colludes in this process.

Jackson (1966) studied the use of conjoint family therapy in his exploration of whether or not psychosomatic families have a typical interactional pattern. He felt that the target illness, ulcerative colitis, was a disorder produced under stress where certain genetic factors already existed. The chronically ill child himself, however, could be the source of the stress. After observing eight families in four to twenty conjoint 90-minutes sessions, Jackson found the families to be "restricted" in their interactions. These families had observable rules and transactions which confined the members to few and limited interactions in the family. The members generally behaved in such a way as to invite sanctions from others within the family as they limited their behaviors in the world at large.
The restrictiveness extended to an excessive concern with medical matters. Communication within the families was seen as very indirect and comments about family relationships were not made overtly. This poor interaction between the members and the world was seen to be present in the previous generations also.

Minuchin, a noted family theorist and therapist in 1975 with Baker and Rosman and in 1978 with Fishman, applied his systems model of family therapy to the field of psychosomatic medicine with considerable success. The model postulates that "certain types of family organization are closely related to development and maintenance of psychosomatic syndromes in children, and that the child's psychosomatic symptoms in turn play an important role in the maintaining the family homeostatis" (1975, p. 20). While working with diabetics and cases of anorexia nervosa, Minuchin found several characteristic family transactional patterns which included:

1. **Enmeshment** in which the members are overinvolved with each other to the point that there is little privacy or role boundaries.

2. **Overprotectiveness** was seen by excessive concern with the welfare of the other members. The sick child was often seen as protecting the family which in turn gives him great responsibility.

3. **Rigid families** were very dedicated to maintaining the status quo. Change was very hard for these families and their threshold for conflict was very low. Strong religious or moral standards were found to be used often as a defense.
4. **Avoiding conflict** was done through a variety of denial methods including interruptions and subject changes. One spouse was often the avoider in the relationship.

5. **Child involvement** was noted when the parent's conflict was seen as a key factor in supporting the symptom. The parents often focused their problem on the child, thereby avoiding their responsibility, through a number of methods:
   
   a. **Triangulation** placed the child in a situation in which he must side with one parent against the other.
   
   b. **Parent-child coalition** saw the child in a stable coalition with a parent against the other parent.

   c. **Detouring** occurred when the parents were united and saw the child as their only problem.

   Nelsen (1983) felt Minuchin recognized the importance of the social, physical, and sociocultural environment within which any family exists as affecting the way a family behaves. This environment of the group is the space in which the members develop rules or interactional patterns which allow them to function as a family. The interaction of the family within this environment produces a significant part of the family's problems, but it is also the source of its support systems. The structural therapist must help the family to "behave differently" by changing dysfunctional structures such as coalitions, enmeshments, or inappropriate disengagements.

   Andolfi (1979) notes Minuchin's conception that the family members have
learned over a period of time what rules or transactional patterns are permitted and what is forbidden. These patterns form a systematic whole that allows the family to stay in balance and to function. Minuchin (1982) expands this idea to the society (environment) at large when he states that "families are highly complex multi-individual systems, but they are themselves subsystems of larger units--the extended family, the block, the society as a whole" (p. 15). The systems within the family are also capable of being differentiated into subsystems such as husband/wife, wife/child, etc.

Generally, the family is an active self-regulating system. However, when the alliances, closeness, or distance and power among the members become inappropriate and do not change to meet the changing needs of the members, dysfunction is noted. Psychosomatic families are seen to include such maladaptive characteristics as over-protection, extreme rigidity, and over-involvement.

Minuchin's family interactive patterns were verified through a series of experiments using interviews and problem-solving tasks while monitoring the blood-chemistry levels of a group of diabetics and their families (Minuchin et al, 1978). The diabetic child, it is known, produces a concentration of free fatty acid (FFA) in the blood when aroused prior to entering acidosis. The research was aimed at developing a relationship between emotional arousal and psychosomatic crisis as measured by changes in the FFA. The family was monitored constantly for FFA fluctuations while the researchers induced a family crisis.

While the transactual patterns were recorded on videotape and scored by
a number of evaluators, the blood work showed that the presence of the child in a family conflict situation lowered the parents' blood chemistry levels but raised those of the child. Graph A shows the parents' FFA drop when the target child was present during the family crisis interview. This change was highest for the psychosomatic child when compared with normal or behavioral problem children, and if left unchecked it was felt it could cause an attack of diabetic acidosis.

Graph A

![Graph A](image)


It was also learned from the experiment that the FFA level of the psychosomatic child was more sensitive to family conflict than that of normal and behaviorally involved diabetic children. The responses shown in graph B were in response to viewing the crisis through a one-way mirror.

These findings show that while the "etiology of the disease may be physical and not psychological, the psychosomatic element of the disease lies in the exacerbation of the underlying symptoms triggered by emotional stress" (Goldenberg and Goldenberg, 1980, p. 82). Minuchin et al (1978) clarified this in differentiating between primary and secondary psychosomatic problems. The former disorder is when the physiological dysfunction is already present while the latter disorder is present "in the transformation of emotional conflicts into somatic symptoms" (p. 29).

Liebman, Minuchin, and Baker (1974a, 1974b) employed Minuchin's theory with cases of anorexia nervosa and severe, relapsing asthma. Family
members of asthmatics were seen as intrusive and overinvolved, yet denying the need for change. The mothers were often seen siding with the child while excluding an angry peripheral father. The intervention involved teaching the child breathing techniques to aid relaxation; then the family system was altered to allow the parents to work together. These procedures enabled the child to obtain more independence and freedom from his medical problem while they increased the parental stress due to the emergence of their old conflicts. Therapy with the two adults helped in the prevention of the recurrence of the patient's symptoms.

A similar study was reported by Liebman, et al (1976, p. 320), using a family therapy program for twenty-five families, each of which had a chronically asthmatic child. The results of the study indicated:

1. Family therapy had been successful in alleviating the intensity and number of attacks. The families were more able to cope with the symptoms and therefore there were fewer hospitalizations.

2. There was less dependency on medication.

3. There was better school attendance and increased peer involvement.

4. There was better functioning in the siblings and the parents.

It was felt that therapy for the family should be considered a necessary and effective modality in the treatment of children with asthma. The results of the anorexia cases followed similar treatment and results with additional emphasis on outpatient treatment to ensure continued weight gain. The parents continued counseling to keep them focused on their own problems rather than reverting to the symptoms of the patient.
Burbeck's work (1979) presented an empirical investigation of Minuchin's model dealing with chronically ill asthmatic children. The characteristics of enmeshment, overprotectiveness, rigidity, and poor conflict resolution were developed into an Index of Family Characteristics (IFC) so they could be measured in the families of forty-two asthmatic children. An example of the IFC item for Rigidity is, "my family feels content with the way things are now" while an Enmeshment item was, "my family is a close-knit group." The family rated the items on a six-point scale from seldom to almost always. Medical information was obtained as were the opinions of the family regarding the severity of the condition. The results showed no significant positive relationship between severity of asthmatic condition and the four characteristics (p. 332). It was noted, however, that "the adults interviewed who reported low levels of the characteristics postulated in the psychosomatogenic family model also tended to report high severity" (p. 323) on the parent's view of severity test. A criticism of the study was centered on the selection and determination of the subjects and how some youngsters may have masked the effects of other more severe subjects. The reliability of some of the IFC scales was also quite low and could have accounted for the lack of support. The authors note also that the validity of the Short-Form IFC was "open to serious question." This study, however, does cast some doubt on the psychosomatogenic family model's attempts to explain the etiology of all psychosomatic asthma symptoms.

Waring's research (1980b) cites evidence that suggests, but does not yet prove, that families with greater rigidity of structure are associated with
psychosomatic illnesses. The author recognized Minuchin's theory as demonstrating that there may be some specific interactional family dynamics which give great power to the "sick" role in the family. The author noted frequent communication difficulties are seen among spouses of psychosomatic patients. Family structures showing over-involvement within the group but isolation from extra-familial contact was recognized as frequently being seen in the psychosomatically involved family.

An earlier article by Waring (1977) finds him advocating the use of a systems approach for dealing with families who come to their physician for support. This method allows the physician to enter the family without introducing guilt while he works to diffuse the symptom. An emphasis is also placed on diffusing the physician who has become triangulated and giving the responsibility for the illness back to the family.

The works of Stierlin, Wirsching and Knass (1977), and Wirsching, and Stierlin (1979), strongly support the system family therapy approach to dealing with psychosomatic disorders. The power of the sick child in keeping the family balanced is recognized by the authors and is a caution to the therapists not to interfere too abruptly. Conjoint therapeutic sessions afford a safe situation to "un-bind" (Wirsching, et al, p. 132) themselves and foster reciprocal individuation for all members.

Fredericks and Mumdy (1977) supported the "sick role" concept and noted a tendency in some families to support this behavior covertly. A tendency for well family members to become over-reactive to sick family members in the
direction of being too helpful was recognized. This interpersonal pattern allows a relationship to develop in which one member is prone to sickness to gain attention from other members and to stabilize the relationship.

Cermak (1973) noted that when only one member of a family is treated, three possibilities are open: (1) the "cured" one becomes sick again, (2) another member becomes ill or, (3) the family which was held together by the sick relationship falls apart. The author sees the family situation as pathological and if it remains unchanged the cured psychosomatic patient will certainly encounter difficulties. Cermak took the family model a step further when he invited the families of the patients to become involved in the client's group therapy. This helped the families see what was happening in this aspect of the therapy as well as allowing the other group members to see the client's family, thereby introducing a reality check.

Waring's (1980a) work suggests that "specific types of marital and family therapy may be effective in a few specific psychosomatic problems, as useful adjunctive therapy in some psychosomatic problems, and that family assessment is helpful in the management of all psychosomatic problems" (p. 243). The author notes that the research on viewing the mother-child relationship as a predisposing factor has not been empirically confirmed. However, the systems approach to psychosomatic disorders also has weak research for proving the family as the "cause". More work has been done to investigate the role of the family system in the precipitation and perpetuation of chronic difficulties. It was also recognized that there were few controlled studies available which allow for a
definitive statement about which psychosomatic illness is most responsive to a specific type of family therapy. The author, however, does feel that physicians of all backgrounds who are interested in psychosomatics "should possess attitudinal beliefs that marriage and family are important determinants of symptoms" (p. 251).

Rubinstein (1980) provides additional input to family physicians who frequently are in the best position to deal with psychosomatic problems of their patients. The author stresses an awareness of the developmental/transitional stage that the adolescent and family are in when working with the client. One of these tasks is for the members to "create new alternatives for demands on their own psychological evolution in the changing relationships within the developing family system, and of the requirements which arise from the physical and psychological growth of their children" (p. 115).

An emphasis on the family system is presented as the adolescent's condition is viewed as a result of "an interplay of many dynamic forces in which the family members' interrelations are an important factor" (p. 117). Rubinstein recommends a combination of individual, group and family psychotherapy in which all the members can develop a greater awareness of the family communicational system, the family rules and the various power relationships. Through this approach it is felt that the adolescent or identified patient no longer becomes the focus of the system's dysfunction.
D. Critique of review of family therapy literature

The lack of controlled descriptive studies dealing with family therapy outcomes is noteworthy. Several of the studies attempting to resolve this problem have encountered difficulties. Burbeck's work (1979) showing poor validity could have been due to a biased sample population as Minuchin's psychosomatic family model was developed from work with families of children with psychosomatic illness who were treatment failures. This sample bias was apparently overcome in Waring's (1980b) work which supported the model's theory.

The measurement of a family's dysfunction has yet to be quantified to such a degree as to meet all theorists' needs. The terms used to describe various dynamics frequently mean different things to different theorists and consequently, generalization and replication are hard to perform. Minuchin, et al (1978), used role play, video taping, and interviews to obtain information about the family's functioning. More objective measures are also being developed to study the family patterns and concerns, but more work in this area is indicated.

The literature cited certainly suggests but still does not demonstrate unequivocally that family therapy may be useful in the treatment of some psychosomatic illnesses. All of the articles dealt with individuals who had already been labeled as psychosomatic and usually had some sort of medical/psychiatric intervention before embarking on family therapy. The patterns of family interaction of pre-psychosomatic youngsters can only be hypothesized based on what has been seen following identification of the case.
E. Review of research on the population

Meyer (1982) makes a differentiation between the prevalence and the incidence of children with exceptional needs. Prevalence is seen as the number of currently existing compared to incidence, or the number who at some time in their lives might be considered to have an exceptional need. Prevalence is the number of children who have been identified and are receiving services.

Lerner (1981, p. 27) cites a 1979 HEW report of the number of school-aged children who had been identified as having special education needs who were being served. The breakdown is as follows:

<table>
<thead>
<tr>
<th>Exceptionality</th>
<th>Percentage of School Aged Population</th>
<th>Percentage of Total Handicapped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech Impaired</td>
<td>2.39%</td>
<td>32.5%</td>
</tr>
<tr>
<td>Learning Disabled</td>
<td>1.89</td>
<td>25.6</td>
</tr>
<tr>
<td>Mentally Retarded</td>
<td>1.84</td>
<td>25.0</td>
</tr>
<tr>
<td>Emotionally Disturbed</td>
<td>.56</td>
<td>7.6</td>
</tr>
<tr>
<td>Other Health Impaired</td>
<td>.27</td>
<td>3.7</td>
</tr>
<tr>
<td>Orthopedically Impaired</td>
<td>.17</td>
<td>2.3</td>
</tr>
<tr>
<td>Deaf and Hearing Impaired</td>
<td>.17</td>
<td>2.3</td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>.07</td>
<td>1.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>7.36%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The number of special students has grown through the years as legislation, awareness and identification has improved. Dunn (1973) notes that in the early 1970's the majority of all special education was at the elementary level. In the years from 1968 to 1972, the author cited a 19 percent increase in
enrollments in behavior disabilities classes. Kirk (1972) noted that while the number of emotionally disturbed students was high (767, 108) over 80 percent were still not receiving services in 1969.

Meyer (1982) noted the percentages of the handicapped population had changed. The learning disabled and emotionally disturbed groups had increased from 29.0 and 7.7 percent of the total group to 31.8 and 8.2 percent respectively from 1978 to 1980.

A report from the Joint Commission on Mental Health of Children (1969) placed the number of severely disturbed students at 2.6 to 3.6 percent. The Commission, however, saw another 10 percent to be moderately disturbed and another 20 percent to be mildly disturbed.

Cruickshank and Johnson (1967), while recognizing that three percent of the child population is in need of intensive help for emotional difficulties, saw the need as far greater. The authors state (p. 573) that 10 percent of all children need some help for emotional problems, and that children under 15 are the fastest growing emotionally disturbed group. Based on these figures, it can be stated that approximately 3 to 5 percent of the school population has identified exceptional needs but up to 30 to 34 percent of the school age group may have psychological concerns of varying degrees of severity.

It is impossible to state the incidence or prevalence of psychosomatic students in the general population, as frequently these children have other difficulties which may make the diagnoses less than accurate. The early age of
these disorders is, however, noted. Furman and Katan's work (1969) mentions psychosomatic concerns in four of their fifteen clients at the Hanna Perkins School which was affiliated with the Child Psychiatry Division of the University Hospital of Cleveland. The children were all between the ages of three and five and were seen to have such disorders as allergic rashes, asthma and eczema. One child's condition started at age two when she was under great stress and continued in certain situations until age four when she was treated.

One place besides the mental health clinic where psychosomatic children are being recognized is in the schools. The relationship of elementary school absence to psychosomatic ailments was studied by Frerichs (1969). The author felt that illness was an "acceptable" reason for non-attendance and children under stress used this excuse to avoid school which was an anxiety-producing environment. High absence (more than three absences per semester) students were compared to low absence students (less than three absences per semester). The Psychosomatic Symptom Scale (PSS) was administered as were IQ and sociological measures. The results showed "a clear relationship between having four or more positive symptoms (on the PSS) and having a high absence rate" (p. 94). Children from broken homes also were seen to have more psychosomatic concerns. A team approach was recommended to resolve and remediate the problem and it was stated that "if the home situation appears to be a factor associated with the youngster's disturbance, the team could develop means to help restructure home environment conditions . . . " (p. 95). While it was
felt that psychosomatic problems do not have their origins in childhood, it was stressed that the symptoms should be treated before the upper elementary and middle school years.

Aikawa K. and Nakane, V. (1978) studied 94 children who refused to attend school. It was noted that 55 percent of the students had hypochondriac complaints and the majority of these symptoms were seen more frequently among primary school children. The importance of the home/family environment was noted also, as children from broken homes were more likely to be institutionalized for school refusal.

Woolcott, Aceto, Rutt, Bloom and Glick (1982) studied four children whose mothers had sought medical care for numerous complaints. The parents had consulted 99 physicians in eight states and the youngsters had missed up to 200 days per year of school instruction. The children were found to be healthy but the families showed symbiotic (enmeshed) patterns with considerable denial being used. The fathers supported their wives' concerns about the serious medical problems. It was felt by the researchers that there were serious emotional difficulties within the families.

The National Institute of Health in 1969 sponsored a series of workshops for school nurses directed at mental health issues. The program was precipitated by the nurses' feelings of uneasiness about the impact of their services in dealing with the emotional needs of students. Modern concepts in psychiatry and psychiatric nursing were introduced to help the nurses deal with childrens' issues
of sex, death, anxiety and determine if symptoms were psychosomatic or real.

Thompson (1977) writes from the position of a school nurse faced with children complaining of feeling ill but showing no physical disorder. A holistic approach is proposed which attempts to view the child from his physical, mental, and psychic conditions. The author views psychosomatic illness as a response to the deprivation of basic needs, citing among other factors, stress caused by inconsistent adults and unmanageable situations. Family disorganization, learning difficulties, and peer relations are factors for the nurse to examine in helping the child understand his problem. Thompson feels (p. 521) that "while not all psychogenic illnesses are indicative of a serious emotional disorder they should not be dismissed as inconsequential."

May (1975) estimated that 10 to 11 percent of school age children exhibit abdominal dysfunction. The author noted further that the cause of this dysfunction was usually emotional, for organic pathology was rarely found. Tesse (1981) felt that hypochondriacal and psychosomatic disorders were more uncommon than acting out behaviors as masks for depression. However, when they do occur it is as "headaches, tics, choreiform movements, abdominal complaints, nausea, vomiting and anorexia" (p. 357).

Polifka (1982) cites research which showed a majority of school psychologists surveyed in Iowa had at least one referral in which the major part of the child's problem was a somatic concern. The writer noted a span of distribution of the cases regarding ages of the students: one referral at the 0-5 year level,
fourteen at the 6-10 year level, fourteen at the 11-15 year level and six at the 16-20 year level (p. 352). It was felt that the number of students psychosomatically involved was sizeable and the problem relevant to the field of school psychology.
F. Critique of research on the population

A limited number of studies with young children exhibiting psychosomatic problems have been undertaken. The majority of research on psychosomatic children has been performed with youngsters who are at an older elementary or even middle school age: Liebman, et al (1974a) average age 11.1; Liebman, et al (1974b) average age 12.6; Burbeck (1979) average age 10; and Minuchin, et al (1975) average age 10. All of the youngsters studied also had severe problems, i.e., asthma, colitis, anorexia, etc. Ehrlich (1983) brings the use of psychofamilial correlates to deal with school disorders. While he does recognize the impact of other factors in a school difficulty, he notes that "the presence of a school disorder can be viewed as a component of the family's psychological makeup" (p. 192). The common transactual patterns mentioned earlier in this chapter were recognized by the writer who uses the Minuchin view of systems theory. The program helped the child with a learning problem be removed from the role of protector between the mother's and father's relationship. Polifka's work (1982) was among the minority of studies with younger children, i.e., ages 6-10 who did not have severe problems. Little work was found predicting pre-psychosomatic youngsters or studying their families. Prevention and early detection are the hallmark of the 1980's and it should, therefore, extend to this group of children. As Thompson (1977) pointed out, the minor problems which present themselves to the nurse today may become the severe psychogenic problems in later years.
Chapter Three

METHODOLOGY

A. Population.

The population for this study was drawn from ten elementary schools within the Hampton public school system, Hampton, Virginia. The target schools were selected by Hampton system's Director of Pupil Accountability and supported by the Program Evaluation and Systems Analysis Department as being representative of the city population. The city is composed of approximately 126,000 citizens with the racial breakdown of 45% black and 55% white. The city is more commercially oriented rather than a center for residential areas. The stability of the city is supported by the school zones which have shown little change over the years.

All levels of socioeconomic, racial and cultural influences are represented in the ten schools. Racial balance in the schools was established by the system in the mid-1970's prior to any court mandated order. There is a minimum of busing used in Hampton as most of the areas of the city are integrated by housing with no designated black or white areas noted. The schools were felt to be balanced racially "reasonably well" with the schools being within 10-15 percentage points of the actual city racial breakdown. The ten selected schools contained a total of 4,291 students. There were 1,877 black youngsters which represented 43 percent of the total and there were 2,454 white students or 57 percent of the total target population.
The ten target schools included three from a higher income population; four from lower income areas and three fundamental schools which reflected a combination of populations. There were 1,532 students of the lower income schools which represented 36 percent of the target population. The 1,344 students from the identified high income schools represented 31 percent of the total. The 1,415 fundamental school students were the final 33 percent of the target population.

Free and reduced price lunches is felt to be an indicator of family income in connection with family size. In order to receive this benefit, a family must have a maximum income of $9,213 with one child up to an income of $31,746 with eight youngsters. The number of students in the target schools who received a free or reduced price lunch was obtained from the head of the system's Cafeteria Services Department. The number of students in the target schools ranged from 42 to 194 which represented a span of 9 to 47 percent of the individual schools' population. It was found that an average of 30 percent of the total population of the target schools were eligible for this financial assistance.

Five of the ten target schools had been designated as Chapter I schools and were receiving educational support services through this federally funded program. Inclusion in this program was based on the economics of the school population as well as academic levels of the pupils. A set percentage of the school's students had to be performing more than two years below grade level based on the system's Standards of Learning (SOL) tests. The SOL is a criterion
referenced academic measure employed throughout the Hampton system. The population in the target schools who received Chapter I help represented 27 percent of those schools' populations or 534 students out of the 1,996 total (five school group). These youngsters who required this specialized assistance represented 12 percent of the total target population.
B. Procedures.

The nurses of the target schools were informed at a meeting about the project and their role. The criterion for student inclusion was visiting the clinic more than three times per week with medical/health concerns which could not be verified by examination, temperature, etc. Parent forms, letters and other materials, which can be found in Appendix A, were distributed.

Introductory letters were sent to the principals of the target schools, copies of which are in Appendix A. The project was discussed with the school staffs either through a letter from the researcher or by the nurse, the principal or the researcher at faculty meetings. Children who frequently expressed health concerns to the teacher but were not sent to the nurse were noted by the instructors and the names sent to the nurse. The nurse initiated the permission process using the information letter which refers to teacher identification of the child and is listed in Appendix A.

Due to the confidentiality of the nurse's relationship with her students, it was requested by the Central Steering Committee of the Hampton School System, that special measures be employed. A two-step permission form was developed to safe-guard the student's rights. Once the nurse or the classroom teacher identified a student as meeting the criteria for inclusion, a letter was sent to the parents. This initial contact (see Appendix A) asked for parental permission to release the child's name to the researcher for consideration. If the parents refused this offer, the child's identity was kept from the researcher. When
a positive response was received from the parent, a second letter which explained the project and a formal permission form was sent (see Appendix A). The nurse or the school secretary held the forms until the researcher arrived at the site.

The researcher randomly selected a group of students to act as controls from the classrooms of children who had been identified as S.O.N.S. and who had parental permission. The prospective controls were matched to the S.O.N.S. by race, sex, and by being in the same class, by grade and age. An information letter and a permission letter (Appendix A) were sent to the parents for their signatures. Returned forms were held at the schools for the researcher.

The researcher interviewed each of the S.O.N.S. and the matched control students in their schools. The information gathering consisted of the administration of the Moos Family Environment Scale and the Revised Children's Manifest Anxiety Scale. Several stickers were offered each child at the conclusion as a token of appreciation.

A licensed social worker was hired to conduct the family interviews. The worker was selected for her experience and skill at developing rapport with parents as well as her ability to conduct the structured interview. The worker was briefed concerning the project and the nature of the interview devices. A letter from the researcher was sent to the families of the S.O.N.S. and the controls informing them of the upcoming interview (see Appendix A). A list of the parents was given to the worker who then scheduled the interview sessions. The worker
did not know which parents were of the experimental or control group. A monetary incentive was extended to the parents who were resistant to allowing the interview.

The researcher obtained the most current academic test results from the Program Evaluation and Systems Analysis Department. The Standards of Learning (SOL) is a criterion referenced test administered yearly throughout the system. This measure includes scores for math, language arts and reading for each student at each grade level. Due to its system-wide use the students at different schools can easily be compared by a similar instrument.
C. **Instrumentation.**

The *Moos Family Environment Scale - R (FES)* is a 90-item true-false measure which was developed from data on 1,125 normal and 500 distressed families. All areas of the country were sampled and the population included ethnic minority groups and families with preschool and adolescent children, families whose children had left home, older retired adults and newly-married student families. The distressed population was collected from psychiatrically-oriented family clinics and probation parole departments. Families of general psychiatric patients and of alcohol abusers were also sampled.

The FES measures ten dimensions of the family environment according to Moos (1981, p. 2) which include:

1. **Cohesion** - The degree of help and support members give each other.
2. **Expressiveness** - The extent members are encouraged to act openly and express feelings directly.
3. **Conflict** - The amount of openly expressed anger, conflict and aggression among members.
5. **Achievement** - The degree of success orientation and competition.
6. **Intellectual-Cultural** - The amount of interest in political and social issues.
7. **Active-Recreational** - The extent of participation in social and recreational activities.
8. **Moral-Religious** - The degree of emphasis on ethical and religious issues.
9. Organization - The degree of importance on clear structure and organization in family planning.

10. Control - The extent rules and procedures are used to run the family.

The standard deviations and means of the normal and distressed groups showed the latter families to be lower on cohesion, expressiveness, independence, and intellectual and recreational orientation but higher on conflict and control. Standard scores are generated so that investigators can compare their families to a representative group of community families as well as to the distressed group.

Test-retest reliability scores ranged from .68 to .86 and subscale internal consistencies ranged from .61 for Independence to .78 for cohesion. While these scores are generally low, Moos (p. 4) does feel that they are "acceptable." Dreyer, in Buros (p. 820) felt that "this supports Moos' contention that the dimensions measured represent 'distinct though somewhat related aspects of family social environments.'" A number of retests were performed to determine stability of the measure. Reliabilities ranged between .68 and .86 for 2-months and between .52 and .79 for a 12-month period.

The validity of the FES is weak. Dreyer in Buros (p. 821) finds the test items "have face validity and do seem to represent the dimensions which they are supposed to measure." Sines, also reviewing the scale in Buros (p. 822) states that while almost all will agree that there is an impact of the environment upon those functioning in it "there is no empirical evidence that the FES taps the important features of family environment." The reviewer does feel, however, that
while the scale should not be used for clinical or decision-making processes, it is "a psychometrically acceptable instrument for collecting information that may be useful in a practical sense."

Direct use of the FES measure in research is encouraging, as both Nevin (1979) and Newman (1979) found the tool able to predict differences between various groups under study. Both authors studied families who had health involved youngsters (i.e., spina bifida and orthopedic problems). Low stress families tended to be more cohesive, active in recreation and organized and showed less family conflict.

Cooper (1983) found young adults who saw their families of origin as more conflict oriented on the FES, tended to complain of more physical symptoms. Family expressiveness and independence were positively related to the students' physical complaints. Also related to medical findings was the work of Anderson, Miller, Auslander and Santiago (1981). It was found that diabetic adolescents in poor metabolic control were more likely to see their families as high in conflict and low in cohesion. The families also showed less expressiveness and less encouragement to behave independently.

Morgan's work (1981) found the families of children hospitalized for psychosomatic and psychiatric illnesses below average on the Moos in conflict, independence, and activity-recreational orientation. It was also noted that the families seemed to place an emphasis on moral-religious issues and on control which impacted on the leisure activities for the child patient.
Talmadge (1981) found that family cohesion, expressiveness, and intellectual-cultural orientation on the FES were related positively to first grade reading achievement. Family conflict was seen to lessen such achievement. The FES subscales, however, were found to be not useful in improving prediction of reading achievement beyond that afforded by data about child reading readiness and cognitive characteristics.

Ollendick, La Berteaux, and Horn (1978) found good intercorrelation between the FES and the Devereaux Child Behavior Rating Scale while exploring family attitudes, environments and the preschooler's behavior. The results indicated that general attitudes or beliefs interact with specific attitudes on child-rearing. The authors feel that the results supported the future use of the FES in family/childhood research.

Malcom (1981) used six FES subscales to evaluate young children's perceptions of their families. Parker (1982) and Pino, Simons and Slawinoski (in press) adapted the FES verbally or through pictures to measure the concerns of young children. Results support further work with the younger population.

The Revised Children's Manifest Anxiety Scale (RCMAS) subtitled "What I Think and Feel", was the result of over twenty years of use and research on the Children's Manifest Anxiety Scale (CMAS) developed by Castaneda, McCandless and Palermo (1956). The importance of understanding and controlling anxiety is critical for the school age child who is most concerned with academic progress. Reynolds and Richmond (1985) note that youngsters may
not realize that poor school performance "may be attributable to the anxiety level related to relationships among his or her family members" (p. 4). Additionally, "problems at home between parents, between parent and child, or among siblings may manifest themselves as debilitating anxiety in the child" (p. 4).

The RCMAS is a 37-item, self-report instrument designed to assess the type and degree of anxiety in youngsters between the ages of six and nineteen. The scale was normed on 4,972 children in 13 states. All races and sexes were represented as were the various geographic regions of the country. A Total Anxiety score is arrived at by totaling the number of positive responses. Physiological Anxiety is a scale which measures the child's expression of physical manifestations of anxiety. The Worry/Over-Sensitivity subscale gives an index of internalization of the child's concerns. The Social Concern/Concentration subscale views the child's concern about self vis-a-vis other people. A Lie scale is also included in the measure to see if the child is trying to portray "ideal" behavior. Emotional problems, academic difficulties and stressful situations at home all may produce a high Lie score.

Reliability had to be reestablished with the revised measure. Reynolds and Paget (1983, p. 324) found the new reliabilities to be "more than adequate for research purposes and appear appropriate for the evaluation of individual cases as alpha is consistently larger than .80". Correlations between scores over three weeks were consistently in the .90's with test-retest correlations of .68 over nine months for a large group of elementary age children.
Reynolds and Jenson's work (1980) showed promising validity data for the RCMAS. A correlation of .85 was found between the scale and the A-Trait scale of the State-Trait Anxiety Inventory for Children (STAIC). Consistency was also found between the RCMAS's subscales related to physiological anxiety, worry and oversensitivity and concentration anxiety and those of an earlier analysis of the CMAS (Reynolds and Paget, 1981).

Reynolds (1982) used a modified multitrait validation matrix to evaluate the validity of the RCMAS as an anxiety measure. Eighty-six third and fourth grade students were selected and variables such as intelligence, behavioral assessment and personality were examined. The RCMAS Total Anxiety score correlated significantly with the STAIC Trait scale (an accepted measure of chronic anxiety) with .65 for males and .67 for females. There was no correlation with the RCMAS and IQ. A small correlation was seen between the child-reported symptoms of anxiety and teacher-observed behavior problems. Factoral similarity of the RCMAS was also seen across sex and ethnicity for blacks and whites with some cautions being raised for black females below age 12 due to unexplicably low reliability estimates.

The Personality Inventory for Children (PIC) is an objective personality measure which "provides comprehensive and clinically relevant descriptions of child behavior, affect, and cognitive status, as well as family characteristics, for children and adolescents ages 3 through 16 years" (Lachar, 1984, p. 1). The original measure developed in 1958 by Wirt and Broen consisted of 600 items.
and was normed on 2,390 pupils. The current revised measure is a product of 25 years of research and development.

The tool's 600 questions can be broken into four sections of 131, 280, 420 and 600 items. Increased scoring and interpretive options are opened to the researcher with the completion of successive sections. Lachar and Gdowski's work (1979) showed that there was strong concordance between shortened and full scales within several populations with an average agreement being 94.3%. Lachar and LaCombe (1983) felt that completion of the first 420 items was sufficient to produce standard-length profile scales and the critical item list necessary for analysis.

Extensive research has been performed with the PIC and cross-validation coefficients ranging as high as .89 with 95% classification accuracy (Lachar and LaCombe, 1983) give ample support to the strength of the measure. Correlations were also replicated from the clinic, home, and school settings. Validity Indexes ranged from .84 to .90, while test-retest reliabilities were between .43 and .97 depending on the scale (Lachar and Gdowski, 1979). Good validity and reliability was also seen with minorities and norms are provided for preschool to adolescence.

The work by Schnell (1982) showed the PIC had substantial potential to separate children who do and do not have special education needs. Differences were seen between the children placed in normal versus those placed in various special environments.
There are four "broad-band" measures or factors on the PIC which include Undisciplined/Poor Self-control, Social Incompetence, Internalization/Somatic Symptoms and finally Cognitive Development. Each of the four are in turn broken into a total of sixteen individual or "narrow-band" measures such as Somatic Concern, Anxiety, Depression, and Achievement. Of specific interest to the current study are the Family Relations Scales (FAM), Somatic Concern Scale (SOM), the Lie Scale (L), the Defensiveness Scale (DEF) and the F Scale (F) which identifies deviant response sets.

The Standards of Learning (SOL) is a pure criterion referenced test developed and refined by the Hampton system since 1982. The tests assess math, reading and language arts for all grade levels in the system a minimum of twice a year. The Math tests are based on the University of Virginia math series while the SOL for reading is based on the Harcourt Brace series. There have been a number of revisions in the tests and items not measuring objective grade level tasks have been rearranged or removed. Some caution was exercised when viewing the kindergarten and first grade scores as early testing in January may be skewed low. Certain test items would simply not be presented or mastered by younger children until later in the year. The director of the Program Evaluation and Systems Analysis Department, however, felt that analysis of the scores obtained in January would provide a very accurate description of academic placement of the project population across grades, schools and locations.
D. **Design.**

The general structure of this research design took the form of a casual-comparative study involving the selection of two groups differing on the basis of inclusion in the group defined as S.O.N.S. by the criteria outlined earlier. The groups, thus described, were compared on a series of demographic variables and continuous dependent variables. Primary to the intent of the study was the degree to which these two groups can be differentiated on the basis of the two classes of variables.

It was recognized that a lack of randomization and manipulation of variables of interest were sources of weakness in this design, and that insuring equality of groups represented the best attempt at exercising control. To that end, subjects in the control group were matched with S.O.N.S. subjects on sex, age, and race.
E. Statistical analysis and hypotheses.

The principal research question to be answered was whether or not the identified S.O.N.S. are discernible as a distinct group. Analysis of variance techniques, specifically the t-test procedure, a special case of a one-way analysis of variance with two levels of classification, was used in order to determine whether the two groups separate significantly on measures of achievement, personality characteristics, anxiety, and family factors. Testing for equal variances was also a part of the statistical analyses conducted since the result of these tests indicated the selection of appropriate test statistics. The general form of the hypotheses to follow actually involved a series of subscale measures for each instrument. The t statistic was computed on the assumption that the two variances of the parent populations are equal and an approximate t was computed assuming the two variances to be unequal. A folded F statistic was utilized to determine the equality of the two variances.

1. H0: μcontrol = μsons (SOL achievement)  
   H1: μcontrol ≠ μsons
2. H0: μcontrol = μsons (RCMAS)  
   H1: μcontrol ≠ μsons
3. H0: μcontrol = μsons (FES)  
   H1: μcontrol ≠ μsons (children)
4. H0: μcontrol = μsons (PIC)  
   H1: μcontrol ≠ μsons
5. H0: μcontrol = μsons (FES)  
   H1: μcontrol ≠ μsons (family)

Since it was not known whether the assumption of equal variances in the population scores could be made, each hypothesis test was carried out considering both contingencies. That is, the test was made assuming equal variances and the result noted, followed by the test result assuming unequal
variances. If discernible differences were noted, a statistical test was carried out on the following hypothesis:

5. \( H_0: \sigma^2_c = \sigma^2_x \quad H_1: \sigma^2_c \neq \sigma^2_x \) (The variance of the sample control group is equal to the variance of the sample experimental group.)

Provided that the mean scores of the S.O.N.S. group were found to be statistically different from the mean scores of the control group, the analysis continued with the second research question outlined. Given two sets of variables for each subject in the control and S.O.N.S. groups, the study proceeded first with the categorical variables. To examine the effect of the sex and ethnicity, or perhaps an interactive effect of the two on the scores of the PIC, FES, and RCMAS, a multivariate analysis of variance (MANOVA) was carried out. The following hypotheses were tested:

6. \( H_0: \text{(sex): } \mu_{\text{PIC}} = \mu_{\text{FES}} = \mu_{\text{RCMAS}} \quad H_1: \text{Not all } \mu \text{ (sex) are equal} \)
7. \( H_0: \text{(race): } \mu_{\text{PIC}} = \mu_{\text{FES}} = \mu_{\text{RCMAS}} \quad H_1: \text{Not all } \mu \text{ (race) are equal} \)
8. \( H_0: \text{(sex x race): } AB_{ij} = 0 \) (for all \( i \) and \( j \)) \( H_1: AB_{ij} \neq 0 \)

Hypothesis number 6 tested whether there is any difference in sample mean values of subscale measures for levels of factor A (sex) (i.e., scores for boys and girls).

Hypothesis number 7 tested whether there is any difference in the average response on subscales of the three test instruments for levels of factor B (race) (i.e., scores for black, white).
Hypothesis number 8 tested for the presence of an interacting effect between the factors of sex and race on the average response of subjects on subscales of the three test instruments.

Finally, a discriminant analysis was utilized with the set of significantly different subscale values from the three test instruments. Using this approach, it was assumed there was a population which could be partitioned into two distinct groups (those which could be classified as S.O.N.S. and those which could not). Further, an observation \( x \) was known to belong to one group or the other. The discriminant analysis developed a rule for assigning \( x \) to a group with the least chance possible of misclassifying that observation.

Once the discrimination model had been selected, it was determined how good a job had been done of classifying observations. A confusion matrix was reported which displayed the percent of cases assigned to each group by the discriminant rule and the percent of cases which were actually found in each group. Finally, the procedure tested whether the group differences were statistically significant by utilizing the sample estimate of the Mahalanobis distance \( (D^2) \). This statistic was used to determine whether the between group differences were statistically significant in terms of mean separation between the groups.
F. **Summary of Methodology.**

The population was selected from ten representative elementary schools in Hampton, Virginia. The school nurse and the classroom teacher identified children who expressed concerns about health issues at least three times per week. The children's parents were contacted by the nurse and permission to release the names was secured. An informing letter and formal permission form were sent to the families who accepted the project. Control subjects were selected randomly from the S.O.N.S classes and matched for sex, race, grade and age. Permission forms and letters were sent to the parents. The children were interviewed in the schools using the Moos Family Environment Scale and the Revised Children's Manifest Anxiety Scale. The Standards of Learning scores taken in January were obtained as a measure of academic performance. A number of families of both groups were interviewed using the Moos and Personality Inventory for Children.

The design of the project was in the form of a causal-comparative study. Analysis of variance techniques and multiple comparison procedures were used to determine if the two groups are unique on a number of variables. Multiple comparison procedures were carried out to evaluate differences between means to test for subscale measures which differ significantly between the two groups. A multivariate analysis of variance was performed to examine the effect of sex and ethnicity on the scores of the various measures. A stepwise discriminant analysis was utilized to evaluate the subscale values of the instruments. A
confusion matrix was then employed to evaluate how appropriately the observations have been classified. All parents received several letters explaining the study and formal permission from the family was obtained. A summary of the results will be sent to the parents who indicated their desire for this material on the permission form. The study was approved by the Central Steering Committee of the Hampton School System, the participating school principals, and the Human Subjects Committee of the College of William and Mary.
Chapter Four

RESULTS

The results of each of the three principal research questions are presented in this chapter. The existence of two clinically distinct groups is tested by means of the first four hypotheses, followed by an examination of the effect of sex and ethnicity on the variable of interest.

Hypothesis One

There is no significant difference in the level of achievement of students in the control group and that of the identified S.O.N.S. group based on measures of the Standards of Learning Test (SOL).

The \( t \)-test procedure was conducted utilizing as a measure the number of SOL objectives achieved and resulted in no significant differences:

\[
\begin{align*}
    t (49.9) &= -0.1703 \quad p < 0.87 \\
    t (50.0) &= -0.1703 \quad p < 0.87
\end{align*}
\]

Means and standard deviations of the measures of interest are reported in Appendix C for all subscales and instruments.

It was thought that the nature of reporting methods for the SOL may have contributed to a lack of observable results, i.e., students were sampled from various grade levels and at each level the SOL measure is a number of objectives passed as compared to the number expected for that grade level. In order to examine scores on a similar scale, students at a given grade level were grouped. The limited numbers then made parametric tests inappropriate, but
even applying Tukey's Quick Test, a nonparametric equivalent of the t-test, no significant differences in achievement level were indicated. Hypothesis One failed to be rejected.

**Hypothesis Two**

There are no significant differences in the scores of the Revised Children's Manifest Anxiety Scale (RCMAS) between the S.O.N.S. and the control group.

Subtest I (Physiological Anxiety):

\[
t(49.9) = -1.03 \quad p < 0.31 \text{ (unequal variances)}
\]
\[
t(50.0) = -1.03 \quad p < 0.31 \text{ (equal variances)}
\]

Subtest II (Worry/Oversensitivity):

\[
t(49.2) = 0.75 \quad p < 0.46 \text{ (unequal variances)}
\]
\[
t(50.0) = 0.75 \quad p < 0.46 \text{ (equal variances)}
\]

Subtest III (Social Concerns/Concentration):

\[
t(49.9) = -0.095 \quad p < 0.92 \text{ (unequal variances)}
\]
\[
t(50.0) = -0.095 \quad p < 0.92 \text{ (equal variances)}
\]

Subtest IV (Lie Scale):

\[
t(46.2) = 1.15 \quad p < 0.26 \text{ (unequal variances)}
\]
\[
t(50.0) = 1.15 \quad p < 0.26 \text{ (equal variances)}
\]

Total:

\[
t(47.9) = -0.425 \quad p < 0.67 \text{ (unequal variances)}
\]
\[
t(50.0) = -0.425 \quad p < 0.67 \text{ (equal variances)}
\]

Hypothesis Two failed to be rejected as there was no significance between any of the subtests.
Hypothesis Three

There is no significance between the subtests of the Moos Family Environment Scale (FES) when administered to the S.O.N.S. and controls.

Cohesion:

\[ t (48.2) = -0.38 \quad p < 0.71 \quad \text{(unequal variances)} \]
\[ t (50.0) = -0.038 \quad p < 0.71 \quad \text{(equal variances)} \]

Expressiveness:

\[ t (49.5) = 0.03 \quad p < 0.98 \quad \text{(unequal variances)} \]
\[ t (50.0) = 0.03 \quad p < 0.98 \quad \text{(equal variances)} \]

Independence:

\[ t (48.6) = -0.85 \quad p < 0.40 \quad \text{(unequal variances)} \]
\[ t (50.0) = -0.85 \quad p < 0.40 \quad \text{(equal variances)} \]

Achievement:

\[ t (49.9) = 1.37 \quad p < 0.18 \quad \text{(unequal variances)} \]
\[ t (50.0) = 1.37 \quad p < 0.18 \quad \text{(equal variances)} \]

Intellectual/Cultural:

\[ t (50.0) = 0.464 \quad p < 0.64 \quad \text{(unequal variances)} \]
\[ t (50.0) = 0.464 \quad p < 0.64 \quad \text{(equal variances)} \]

Active/Recreational:

\[ t (48.2) = 0.198 \quad p < 0.84 \quad \text{(unequal variances)} \]
\[ t (50.0) = 0.198 \quad p < 0.84 \quad \text{(equal variances)} \]

Moral/Religious:

\[ t (50.0) = 0.43 \quad p < 0.67 \quad \text{(unequal variances)} \]
\[ t (50.0) = 0.43 \quad p < 0.67 \quad \text{(equal variances)} \]
The one major exception to the lack of significant results was found on the subscale of Conflict:

Hypothesis Three is rejected at the 0.05 level as there was a significant difference on one of the FES subtests.

Hypothesis Four

There is no significant difference on the subtests of the Personality Inventory for Children (PIC) between the families of the S.O.N.S. and the controls.

The focus of the research now transfers to a closer examination of the family interactions, having found some distinctive difference between the S.O.N.S. and the control group of students. The t-test procedure was carried out using as measures the subscale values of the PIC for results of interviews with S.O.N.S. and control group families. Means and standard deviations of measures for each subscale are reported in Appendix C. The following four subtests, however, showed significance:

Subscale L (Lie):

\[
\begin{align*}
  t (37.3) &= 2.23 \quad p < 0.032 \text{ (unequal variances)} \\
  t (45.0) &= 2.28 \quad p < 0.027 \text{ (equal variances)}
\end{align*}
\]
Subscale ACH (Achievement):
\[ t(40.6) = -2.092 \quad p < 0.043 \quad \text{(unequal variances)} \]
\[ t(45.0) = -2.031 \quad p < 0.048 \quad \text{(equal variances)} \]

Subscale ANX (Anxiety):
\[ t(43.4) = -2.58 \quad p < 0.01 \quad \text{(unequal variances)} \]
\[ t(45.0) = -2.53 \quad p < 0.02 \quad \text{(equal variances)} \]

Subscale HPR (Hyperactivity):
\[ t(45.0) = -2.09 \quad p < 0.04 \quad \text{(unequal variances)} \]
\[ t(45.0) = -2.08 \quad p < 0.04 \quad \text{(equal variances)} \]

Hypothesis Four is rejected at a 0.05 level as there were subtests on the PIC which were significant between the families of the S.O.N.S. and controls.

Hypothesis Five

There is no significant difference on the subtests of the Moos Family Environment Scale when administered to the families of the S.O.N.S. and controls.

Cohesion:
\[ t(45.0) = -0.04 \quad p < 0.96 \quad \text{(unequal variances)} \]
\[ t(45.0) = -0.04 \quad p < 0.96 \quad \text{(equal variances)} \]

Expressiveness:
\[ t(44.3) = 0.79 \quad p < 0.42 \quad \text{(unequal variances)} \]
\[ t(45.0) = 0.79 \quad p < 0.42 \quad \text{(equal variances)} \]

Conflict:
\[ t(43.5) = 0.16 \quad p < 0.87 \quad \text{(unequal variances)} \]
\[ t(45.0) = 0.16 \quad p < 0.87 \quad \text{(equal variances)} \]
Independence:

\[ t (42.5) = -0.35 \quad p < 0.72 \text{ (unequal variances)} \]
\[ t (45.0) = -0.35 \quad p < 0.72 \text{ (equal variances)} \]

Achievement:

\[ t (38.3) = -0.017 \quad p < 0.98 \text{ (unequal variances)} \]
\[ t (45.0) = -0.018 \quad p < 0.98 \text{ (equal variances)} \]

Intellectual/Cultural:

\[ t (44.6) = 0.89 \quad p < 0.37 \text{ (unequal variances)} \]
\[ t (45.0) = 0.87 \quad p < 0.38 \text{ (equal variances)} \]

Active/Recreational:

\[ t (45.0) = 0.48 \quad p < 0.63 \text{ (unequal variances)} \]
\[ t (45.0) = 0.47 \quad p < 0.63 \text{ (equal variances)} \]

Moral/Religious:

\[ t (37.3) = -0.26 \quad p < 0.79 \text{ (unequal variances)} \]
\[ t (45.0) = -0.27 \quad p < 0.78 \text{ (equal variances)} \]

Organizational:

\[ t (44.2) = 0.51 \quad p < 0.61 \text{ (unequal variances)} \]
\[ t (45.0) = 0.50 \quad p < 0.61 \text{ (equal variances)} \]

Control:

\[ t (43.8) = 0.90 \quad p < 0.37 \text{ (unequal variances)} \]
\[ t (45.0) = 0.88 \quad p < 0.38 \text{ (equal variances)} \]

Hypothesis Five is accepted as there was no significance on any of the FES subtests between the families of the S.O.N.S. and the controls.

**Hypothesis Six**

The factor of sex does not contribute significantly in explaining differences in the scores of the S.O.N.S. and controls on the FES, RCMAS, and
the PIC.

The test for overall sex effect:

\[ F(1,1) = 2.09 \quad p < 0.39 \]

There was no significant difference, so Hypothesis Six cannot be rejected.

**Hypothesis Seven**

The factor of ethnicity does not contribute significantly in explaining differences in the scores of the S.O.N.S. and controls on the FES, RCMAS and the PIC.

The test for overall effect of ethnicity:

\[ F(1,1) = 1.00 \quad p < 0.50 \]

There was no significant difference, so Hypothesis Seven cannot be rejected.

**Hypothesis Eight**

The interactive effect of sex and ethnicity does not significantly contribute in explaining differences in scores of the S.O.N.S. and the controls.

The test for interactive effect of sex and ethnicity:

\[ F(1,1) = 0.13 \quad p < 0.72 \]

There was no significant difference, so Hypothesis Eight cannot be rejected.

Failure to show significant results on Hypotheses Six, Seven and Eight measuring the categorical variables of sex and ethnicity allows one to interpret differences noted on the basis of the continuous variables to be free of influence by these demographic characteristics.
Discriminant Analysis

Results of the discriminant analysis utilized the subscale measures from the PIC which proved to be significant in terms of separating the two groups of students (S.O.N.S. and controls). Actual numbers in the two groups dictate the prior probabilities which will determine the ultimate effectiveness of the discriminant model:

<table>
<thead>
<tr>
<th>Group</th>
<th>Frequency</th>
<th>Prior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>22</td>
<td>0.47</td>
</tr>
<tr>
<td>S.O.N.S.</td>
<td>25</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Prior probabilities indicate the percentages which must be improved upon in order for the results of the discriminant analysis to prove useful.

Confusion Matrix

<table>
<thead>
<tr>
<th>Number of Observations and Percents Classified Into Group</th>
<th>Control</th>
<th>S.O.N.S.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number from Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>16</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>72.73</td>
<td>27.27</td>
<td>100.00</td>
</tr>
<tr>
<td>S.O.N.S.</td>
<td>8</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>32.00</td>
<td>68.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>23</td>
<td>47</td>
</tr>
<tr>
<td>Percent</td>
<td>51.06</td>
<td>48.94</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Based on the results of the confusion matrix, it is seen that the discriminant rule, established on the basis of four subscale measures, was able to correctly classify 16 of 22 control students and 17 of 25 S.O.N.S. students.

While these tentative results are based on very few of the original set of variables, it is felt that a logical path of inquiry has been established. The highly significant difference noted in the subscale of conflict from the FES indicated conflict in family interrelationships. The second group of significant differences was noted on several subscales of family administered PIC interviews. Implications of the occurrence of these measures will be discussed in Chapter Five.
Chapter Five
SUMMARY, CONCLUSIONS, LIMITATIONS
AND RECOMMENDATIONS

Chapter Five presents a summary of this research project and interpretations of the results according to the hypotheses. The limitations which may have had impact on the results are also discussed. Conclusions are drawn upon the interpretations, and implications and recommendations for further research are offered.
A. Summary

The importance of meeting the educational and emotional needs of all students is one of the main values in today's school systems. Many children have been identified as needing special services in order to maximize their learning experience. Interventions for special students should be provided as early in their school career as possible in order to minimize any secondary emotional difficulties. In order to develop proper services for children's different needs, it is important to identify groups of students who may have a similar difficulty. If these youngsters are unique, then recommendations for remediation can be developed, administered and monitored. Children who frequently express concerns about health issues to their teachers and to the school nurse may be such a group who are clinically different from other children.

Family therapy theory has gained popularity as a way of viewing a child's problem in a social-interactive context. Specifically regarding health issues, considerable success has been seen when family sessions are used to help the group members change their behaviors. The power of a sick child in a family is recognized as is the "sick role" which may serve various functions in the family system. Therapy is aimed at helping the members become less involved and less protective of each other while taking the emphasis off the identified client. There is limited objective research available, although it is generally accepted that the family does indeed impact on the behaviors of children.

The majority of work with psychosomatic students has been done with
older children who already had a serious health problem. Very little study has been directed at younger grades with children who are not severely involved. As mentioned in Chapter Two, children under age 15 are the most rapidly growing group of students needing special assistance with 30 to 34 percent of the school age group having psychological concerns of varying degrees.

The research in Chapter Two showed that one theory viewed the "typical" psychosomatic family as having several characteristics which may make it unique. Enmeshment, overprotectiveness, conflict avoidance and rigidity were among the patterns studied in cases with diabetics and anorexics. Good outcomes were noted when these issues were addressed in counseling.

The major research question asked in the present study was if the students who sought nurse support were different from children who did not use this service. Ten elementary schools were selected in Hampton, Virginia, which represented a cross-section of the population. The nurses and staff identified 26 students who were frequent users of health services. Controls were matched by age, sex, race and class. All of the children were interviewed using the Moos Family Environmental Scale and the Revised Children's Manifest Anxiety Scale. Academic levels were evaluated through the use of the Standards of Learning, a criterion-referenced test. Fifty families were interviewed using the Personality Inventory for Children and the Moos Family Environmental Scale.

The analysis of the information included a one-way analysis of variance with two levels of classification to determine if the groups were different on the
various measures. A multivariate analysis of variance (MANOVA) was used to evaluate the effect of sex, ethnicity or the interactive effect of the two might have on various scores. A discriminant analysis was used to determine if scores could separate the two groups.
B. Conclusions, interpretations and limitations

Interpretations of the results as well as conclusions that can be drawn from the results will be discussed in this section for each hypothesis tested. Limitations will also be presented.

**Hypothesis One.** This hypothesis dealt with the idea that S.O.N.S. would have poorer academic achievement scores than the controls. The Standards of Learning tests were used as they are a city-wide continuous program. These measures were unable to show any differences between the two groups for reading, language arts or mathematics skills. Hypothesis One could not be rejected, despite tests for equal and unequal variances. The Tukey's Quick Test was also used, but no significant differences were found.

**Hypothesis Two.** It was felt that the S.O.N.S. group would be more anxious than the control group, however, the analysis of RCMAS showed that the two were not significantly different. This hypothesis failed to be rejected. Only subscale IV, the Lie Scale, began to approach an interest level with \( p < 0.26 \), showing that the desire to project an overly healthy image may have been present.

**Hypothesis Three.** The children were administered the Moos Family Environment Scale to see if they differed in their perceptions of how they saw their family's functioning. Only one area, Conflict, showed a significant difference between the two groups \( p < 0.02 \). This scale hopes to evaluate the amount of openly expressed anger, aggression, etc., seen in the family. Of interest was the
fact that the mean for the control group was higher than the mean for the S.O.N.S. group. This would lend support to the theoretical rationale concept that S.O.N.S. families do not express conflict but rather deny or suppress this emotion.

A number of subtests also showed differences which, while not significant, were of interest, given the exploratory nature of the work. The Achievement subtest ($p < 0.18$) noted the controls as being more concerned with school work, success and competition. The theory base would say that the rigid or enmeshed family who wants to keep the status quo, may not tolerate an upward growing individual. The Organization subtest ($p < 0.14$) showed the S.O.N.S. to be more concerned with structure in planning family activities and responsibilities. Taken to an extreme, this could be a rigid family who does not want change. The Control subtest ($p < 0.17$) showed the control group as more concerned with rules for family life.

**Hypothesis Four.** This hypothesis explores the differences between the families of the S.O.N.S. and control group on the subtests of the Personality Inventory for Children (PIC). The majority of the PIC scales showed little difference, although there were four areas of significance. The $L$ or Lie scale ($p < 0.032$) showed that the two groups were significantly different. The control group was higher on their mean score than was the S.O.N.S. group, possibly indicating a desire to "fake good." This group may have wanted to protect the child or the family from close scrutiny. The Achievement subtest ($p < 0.043$ and $p < 0.048$) showed the S.O.N.S. families do have children who, it was felt, were achieving
significantly below grade level. Anxiety (p < 0.01 and p < 0.02) was felt to be a factor on the PIC especially for the S.O.N.S.' families. This scale reflects worry, specific fears, brooding and moodiness. Hyperactivity (p < 0.04 and p < 0.04) was a major S.O.N.S. factor. This scale showed students as impulsive, talkative, seeking attention and disruptive.

**Hypothesis Five.** There was no significant difference between the S.O.N.S. and control families' responses on any of the variables of the Moos Family Environment Scale (FES). The possibility of "faking good" and knowing the direction of the research may have had an impact on these responses.

**Hypotheses Six, Seven and Eight.** Based on the results of the first three hypotheses tested, it was found that the Conflict subscale on the Moos Family Environment Scale indicated a significant difference between the scores of the control group and those of the S.O.N.S. group. As proposed in the original research plan, a multivariate analysis of variance (MANOVA) was carried out to determine what effect sex, ethnicity, or an interactive effect of the two might have had on the resulting scores. All three hypotheses failed to show significance and therefore the null hypotheses are accepted.

There were a number of variables that showed support for the theoretical basis of the study. The FES for the students did show that the S.O.N.S. were not experiencing overt conflict in their families, but rather this issue was not dealt with openly. This characteristic would support the overprotective family who cannot accept disagreements and conflictual issues. The rigid family structure would not
encourage a member's growth in achievement areas as it may cause a potential challenge to the system. Concern with organization would also be expected in the rigid family as it speaks to control of family life. The parents' responses on the PIC also showed support although the controls tended to try and project an overly healthy picture. The S.O.N.S. were seen by the parents as having academic difficulties and as being more anxious and moody. The perception of the S.O.N.S. as being overly active, while not fitting into the theory base, could point to possible problems around the family controlling the child's actions.

C. Limitations

In addition to the limitations of the target population, semantic differences and interview problems discussed in Chapter One, several other limitations surfaced in this project.

First of all, it became readily apparent that there was some hesitancy on the part of parents to permit research on their children who were not having chronic and overt problems. Prevention or exploratory research seems to be harder to implement than is work on an identified population/problem.

Second, both the controls and the S.O.N.S. knew what the researcher was generally looking for and this could have distorted responses, i.e., "faking good." It is possible that if the parents were distracted from the real thrust of the research that the analysis may have shown different results.

Third, the nature of the tests, especially the Standards of Learning (SOL) may have influenced the results. The criterion-referenced measure is a rather
gross minimum competency tool which may not have been sensitive enough to pick up differences between the groups.

A fourth limitation was the fact that there was not a full-time nurse or clinic worker present in all the schools all the time. The nurses had to rotate between several schools and in their absence the school secretary usually served the ill children. If the S.O.N.S. were drawn to the clinic by the supportive, accepting and understanding nurse, their visits would be limited to when the nurse was present.

A final limitation was the fact that especially in the lower grades (kindergarten, first and second), the teacher may have dealt with the children's concerns in the class. The teacher may have provided support the child needed when the youngster complained of feeling ill.
D. Recommendations

In light of the results of this study and the limitations noted in the previous section, the following recommendations are offered to further researchers:

1. A more sensitive measure of achievement should be used to evaluate academic progress. A measure of intelligence may also be used to try to explain why the S.O.N.S. were no farther behind than the controls; i.e., are they brighter?

2. Future research must consider the possibility that early identification of children who may become overly involved with health concerns at a later age cannot be done. A longitudinal study of the S.O.N.S. group could help resolve this issue.

3. Anxiety showed up on the PIC as an important variable but the RCMAS did not show any differences. Future investigations may wish to use a different measure of this factor.

4. Recognition of school variables/dynamics that would impact the students' behaviors, i.e., determine if needs are being met by the teacher rather than by the nurse. The Burkley or Michigan tests of classroom climate could be used.
LETTER TO THE SCHOOL PRINCIPALS

9700 River Road
Newport News, Va. 23601

September 11, 1985

-------------, Principal
------------- Elementary School
-------------
-------------, Va. --------

Dear-------------:

Earlier this month you received a letter from Dr.-------- informing you that I would be doing some research in your school this year. I wanted to take this opportunity to formally contact you myself and outline my area of interest.

I am studying elementary school youngsters who frequently express concerns about their health and well-being. It is my belief that these children and their families differ significantly from a matched population who do not have these concerns. The Hampton school system has expressed interest in developing this project into a long term study in order to help students before the middle school level is reached.

Dr.-------- indicated that the nurse will be my main school contact in your building. I would, however, like to open this study to your staff for their input as they may deal "in class" with a number of students who may meet my criteria for inclusion. A list of students handed to the nurse would allow these youngsters to be considered.

I would like very much to meet you and to have the opportunity to talk briefly with your staff about the project. Would it be possible for me to have a few minutes at an upcoming staff meeting to present the study?

I will be contacting you in the next week to answer any questions you might have and to see if a convenient meeting time can be arranged. Thank you very much for your time and consideration in this matter.

Sincerely,

David B. Fletcher
School of Education
College of William and Mary
Dear Parent:

Your child has been recognized as making a number of contacts with the school nurse during this school term. We are glad that your youngster feels comfortable enough to use this service. As a school system, we want to improve the quality of our health care as much as possible and that is why I am contacting you.

I would like your permission to include your child's name for consideration in a study that is being started through the Hampton school system by a research student at the College of William and Mary. If you agree, you will receive a permission slip and a letter explaining the study. In the study, your child may be interviewed about health concerns and views of how they see the family health interests. The research will not be an "experiment" but will be made up of only a review of records and interviews. A number of families will also be interviewed about their health interests and concerns.

I hope that you will sign and return the attached slip. We need your help in order to obtain the information which will allow us to better understand and provide for the needs of all of our children. If I can answer any questions you might have, please feel free to call me at ___________.

Sincerely yours,

School Nurse

_________Elementary School

-------------tear here and have your child return to the nurse-------------

I give permission for the School Nurse to release my child's name to be considered for the health research project. I will then receive a permission form to be in the study and additional information. Accepting or rejecting this opportunity will not affect my child's educational program or status in any way.

______________________________

Child

_________

Date

______________________________

Parent/Guardian

I do not give my permission to release my child's name. (SIGN BELOW ONLY)

______________________________

Date

______________________________

Parent/Guardian
INTRODUCTORY LETTER TO THE SCHOOL FACULTY

Dear Teacher:

Your building principal and the school nurse have been in contact with you concerning the research I am doing with the Hampton school system. We felt that it might be a good idea if I provided you with some additional information about myself and the study.

I am a doctoral student at the College of William and Mary and I am investigating the health concerns of elementary school children and their families. Students who frequent the clinic or SONS (seekers of nurse support) have been a concern to both me and the school system because they tend to miss valuable instructional time while they visit the nurse's office.

I am also finding that due to the limited amount of time that the nurse can spend in each of her schools, that many of the SONS are not coming to her attention. I feel that frequently the teaching staff deals effectively with these children in their own rooms and the students never have to be sent to the clinic. These are the students that I need your help in identifying. Although they do not see the nurse, they do try to use health "problems" and health concerns as a means of dealing with their environment.

The study itself will consist of an interview with the child in the school to gather information about health concerns, anxieties and views of the family regarding health/medical problems. I also plan to interview the parents of a number of the students in order to determine their views and concerns regarding health and medical issues as well as to ascertain how the family deals with these topics. The interviews will take the form of several standardized questionnaires.

There will be no risks to the child and the evaluation time should take about thirty minutes. If a family is selected to be interviewed, I will call and arrange a time convenient to their schedule. The information I gather will be kept confidential and their responses and those of their child will be grouped with others so that no individual answers will be recognizable. If they would like a summary of the study, the results will be sent to them at the completion of the project.

I hope that if you have any children who have shown an over-concern with health issues, you will use the attached form to inform Mrs. ------, your school nurse. I need your help in order to obtain the information which will allow us to better understand and provide for the needs of these children. If I can answer any questions you might have, please feel free to call me at 599-____ or at 595-_____.

Sincerely yours,

David Fletcher
College of William and Mary
FORM FOR TEACHER INPUT TO THE SCHOOL NURSE

--------------- Elementary School

_________________ Teacher

Grade _______ Room _______

PROSPECTIVE SONS STUDENTS

1. __________________________
2. __________________________
3. __________________________
4. __________________________
5. __________________________
6. __________________________
7. __________________________

Please return this list to the
School Nurse. Thank you!
LETTER TO PARENTS OF S.O.N.S. IDENTIFIED BY TEACHERS

Dear Parent:

Your youngster's teacher has indicated that your child has frequently expressed concerns about health issues. We are glad that our students feel comfortable enough in class to express their feelings. As a school system, we want to improve the quality of our health care service as much as possible and that is why I am contacting you.

I would like your permission to include your child's name for consideration in a study that is being started through the Hampton school system by a research student at the College of William and Mary. If you agree, you will receive a permission slip and a letter explaining the study. In the study, your child may be interviewed about health concerns and views of how they see the family health interests. The research will not be an "experiment" but will be made up of only a review of records and interviews. A number of families will also be interviewed about their health interests and concerns.

I hope that you will sign and return the attached slip. We need your help in order to obtain the information which will allow us to better understand and provide for the needs of all of our children. If I can answer any questions you might have, please feel free to call me at ____________.

Sincerely yours,

School Nurse

___________Elementary School

-----------------------tear here and have your child return to the nurse-----------------------

I give permission for the School Nurse to release my child's name to be considered for the health research project. I will then receive a permission form to be in the study and additional information. Accepting or rejecting this opportunity will not affect my child's educational program or status in any way.

_______________________
Child

Date ____________________ Parent/Guardian

I do not give my permission to release my child's name. (SIGN BELOW ONLY)

______________
Date

_____________________
Parent/Guardian
LETTER TO PARENTS OF PROSPECTIVE EXPERIMENTAL SUBJECTS

School of Education
College of William and Mary
Williamsburg, Virginia

Dear Parent:

The school nurse has been in contact with you concerning the research I am doing with the Hampton school system. You indicated to her that you would be interested in allowing me to gather some information on your child. I would like to give you some information about the project before you sign permission.

I am a doctoral student at the college of William and Mary and I am investigating the health concerns of elementary school children and their families. Students who frequent the clinic or SONS (seekers of nurse support) have been a concern to both me and the school system because they tend to miss valuable instructional time while they visit the nurse's office.

Your child has been recognized as making a number of contacts with the school nurse during the year. I am asking your permission to interview your child in the school to gather information about health concerns, anxieties and views of the family regarding health/medical problems. I also plan to interview the parents of a number of the students in order to determine their views and concerns regarding health and medical issues as well as to ascertain how the family deals with these topics. The interviews will take the form of several standardized questionnaires.

There will be no risks to your child and the evaluation time should take about thirty minutes. If your family is selected to be interviewed, I will call and arrange a time convenient to your schedule. The information I gather will be kept confidential and your responses and those of your child will be grouped with others so that no individual answers will be recognizable. If you would like a summary of the study, the results will be sent to you at the completion of the project.

I hope that you will sign and return the attached slip. I need your help in order to obtain the information which will allow us to better understand and provide for the needs of children like yours. If I can answer any questions you might have, please feel free to call me at 599-____ or at 595-____.

Sincerely yours,

David Fletcher
Doctoral Student
College of William and Mary
LETTER TO PARENTS OF PROSPECTIVE SONS IDENTIFIED BY TEACHERS

School of Education
College of William and Mary
Williamsburg, Virginia

Dear Parent:

The school nurse has been in contact with you concerning the research I am doing with the Hampton school system. You indicated to her that you would be interested in allowing me to gather some information on your child. I would like to give you some information about the project before you sign permission.

I am a doctoral student at the college of William and Mary and I am investigating the health concerns of elementary school children and their families. Students who frequent the clinic or SONS (seekers of nurse support) have been a concern to both me and the school system because they tend to miss valuable instructional time while they visit the nurse's office.

Your child has been recognized by their teacher as having expressed concerns about health issues during the year. I am asking your permission to interview your child in the school to gather information about health concerns, anxieties and views of the family regarding health/medical problems. I also plan to interview the parents of a number of the students in order to determine their views and concerns regarding health and medical issues as well as to ascertain how the family deals with these topics. The interviews will take the form of several standardized questionnaires.

There will be no risks to your child and the evaluation time should take about thirty minutes. If your family is selected to be interviewed, I will call and arrange a time convenient to your schedule. The information I gather will be kept confidential and your responses and those of your child will be grouped with others so that no individual answers will be recognizable. If you would like a summary of the study, the results will be sent to you at the completion of the project.

I hope that you will sign and return the attached slip. I need your help in order to obtain the information which will allow us to better understand and provide for the needs of children like yours. If I can answer any questions you might have, please feel free to call me at 599-____ or at 595-____.

Sincerely yours,

David Fletcher
Doctoral Student
College of William and Mary
EXPERIMENTAL SUBJECT'S PARENTAL PERMISSION FORM
PERMISSION TO PARTICIPATE IN THE SONS RESEARCH PROJECT - E

Student_____________________________
School________________________________
Date of Birth_________________Grade__________

I, the undersigned, agree to give David Fletcher, of the College of William and Mary, permission to gather information on my child for the purpose of his doctoral dissertation. I have read the informing letter and am aware that this study will consist only of the administration of rating forms, interviews with formal questionnaires and a review of records. I am also aware that an adult member of my family may be interviewed later in the project. I have been assured of confidentiality and may obtain a summary of the findings at the conclusion of the study.

I give permission. I do not give permission.

________________________________________
Parent

I would like a copy of the summary of results sent to this address:

________________________________________
________________________________________
________________________________________

This study has been approved by the School of Education and the Human Subjects Research Committee at the College of William and Mary and by the Hampton Public School System.

PLEASE HAVE YOUR CHILD RETURN THIS FORM TO THE SCHOOL NURSE.
THANK YOU!
CONTROL - EXPERIMENTAL MATCHING FORM

CONTROL GROUP

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<thead>
<tr>
<th>SCHOOL</th>
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<tr>
<th>EXPERIMENTAL SUBJECT</th>
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<th>RC</th>
<th>GR</th>
<th>CONTROL SUBJECT</th>
<th>DATE</th>
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LETTER TO PARENTS OF PROSPECTIVE CONTROL SUBJECTS

Fall 1985

School of Education
College of William and Mary
Williamsburg, Virginia

Dear Parent:

I am a doctoral student at the College of William and Mary and I am investigating the health concerns of elementary school children and their families. Students who frequent the clinic or SONS (seekers of nurse support) have been a concern to both me and the school system because they tend to miss valuable instructional time while they visit the nurse's office.

Your child has been selected as a student who has not frequently sought the care of the school nurse. I hope to compare children like yours with youngsters who are in contact with the nurse. I am asking your permission to interview your child in the school to gather information about health concerns, anxieties and views of the family regarding health/medical problems. I also plan to interview the parents of a number of the students in order to determine their views and concerns regarding health and medical issues as well as to ascertain how the family deals with these topics. The interviews will take the form of several standardized questionnaires.

There will be no risks to your child and the evaluation time should take about thirty minutes. If your family is selected to be interviewed, I will call and arrange a time convenient to your schedule. The information I gather will be kept confidential and your responses and those of your child will be grouped with others so that no individual answers will be recognizable. If you would like a summary of the study, the results will be sent to you at the completion of the project.

I hope that you will sign and return the attached slip. I need your help in order to obtain the information which will allow us to better understand and provide for the needs of the children in Hampton. If I can answer any questions you might have, please feel free to call me at 599-____ or at 595-____.

Sincerely yours,

David Fletcher
Doctoral Student
College of William and Mary
CONTROL SUBJECT'S PARENTAL PERMISSION FORM

Student ________________________________
School _________________________________
Date of Birth ____________________ Grade _____________

I, the undersigned, agree to give David Fletcher, of the College of William and Mary, permission to gather information on my child for the purpose of his doctoral dissertation. I have read the informing letter and am aware that this study will consist only of the administration of rating forms, interviews with formal questionnaires and a review of records. I am also aware that an adult member of my family may be interviewed later in the project. I have been assured of confidentiality and may obtain a summary of the findings at the conclusion of the study.

I give permission.  
I do not give permission.

_________________________  __________________________
Parent  Parent

I would like a copy of the summary of results sent to this address:

________________________________________________________

________________________________________________________

________________________________________________________

This study has been approved by the School of Education and the Human Subjects Research Committee at the College of William and Mary and by the Hampton Public School System.

PLEASE HAVE YOUR CHILD RETURN THIS FORM TO THE TEACHER OR TO THE SCHOOL NURSE

THANK YOU!
PARENT INTERVIEW LETTER

School of Education
College of William and Mary
Williamsburg, Virginia

January, 1986

Dear

I would like to thank you for signing permission allowing me to meet with your child. It is through your help that I hope to be able to provide the Hampton public school system with information which will benefit a large number of students.

I had mentioned in the permission letter that I also will be selecting a number of adults to be interviewed. Once again I need your help. You have been chosen to help me better learn how the parents of our children deal with a number of issues, specifically centering around health and medical concerns. A specially trained interviewer will be contacting you within the near future to schedule an appointment. Your responses will be most confidential and later will be grouped with other parents so they will not be identifiable as yours.

I know you had expressed an interest in the study by requesting a summary of the results. I hope that you will continue your support by allowing me to gather this most important information. As before, if you have any questions, please feel free to call me at 599-_____ (8 to 5) or 595-_____ (PM).

Sincerely yours,

David Fletcher
Doctoral Student
College of William and Mary
NAME __________________________ SCHOOL __________________________
GRADE ____ SEX ____ RACE ____ DOB __/__/____ GROUP EXP CON

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STANDARDIZED ACADEMIC MEASURES:

________________________________________________________________________
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PARENT INTERVIEW:

CONTACTED: __/__/____ CONDUCTED: __/__/____ REFUSED __/__/____

REQUEST FOR RESULTS: YES ____ NO ____ SENT __/__/____
APPENDIX B

MEASUREMENT INSTRUMENTS:
REVISED CHILDREN'S MANIFEST ANXIETY SCALE
MOOS FAMILY ENVIRONMENT SCALE
PERSONALITY INVENTORY FOR CHILDREN
STANDARDS OF LEARNING (READING)
1. I have trouble making up my mind.......................................................... Yes  No
2. I get nervous when things do not go the right way for me................ Yes  No
3. Others seem to do things easier than I can........................................... Yes  No
4. I like everyone I know........................................................................... Yes  No
5. Often I have trouble getting my breath.................................................. Yes  No
6. I worry a lot of the time........................................................................... Yes  No
7. I am afraid of a lot of things................................................................. Yes  No
8. I am always kind.................................................................................... Yes  No
9. I get mad easily..................................................................................... Yes  No
10. I worry about what my parents will say to me..................................... Yes  No
11. I feel that others do not like the way I do things.................................. Yes  No
12. I always have good manners................................................................. Yes  No
13. It is hard for me to get to sleep at night.............................................. Yes  No
14. I worry about what other people think about me............................... Yes  No
15. I feel alone even when there are people with me............................... Yes  No
16. I am always good.................................................................................. Yes  No
17. I often feel sick to my stomach............................................................. Yes  No
18. My feelings get hurt easily.................................................................. Yes  No
19. My hands feel sweaty........................................................................... Yes  No
20. I am always nice to everyone................................................................. Yes  No
21. I am tired a lot....................................................................................... Yes  No
22. I worry about what is going to happen.................................................. Yes  No
23. Other children are happier than I am.................................................... Yes  No
24. I tell the truth every single time.............................................................. Yes  No
25. I have bad dreams................................................................................ Yes  No
26. My feelings get hurt easily when I am fussed at.................................... Yes  No
27. I feel someone will tell me I do things the wrong way....................... Yes  No
28. I never get angry................................................................................... Yes  No
29. I wake up scared some of the time....................................................... Yes  No
30. I worry when I go to bed at night........................................................... Yes  No
31. It is hard for me to keep my mind on my schoolwork....................... Yes  No
32. I never say things I shouldn't................................................................ Yes  No
33. I wiggle in my seat a lot....................................................................... Yes  No
34. I am nervous......................................................................................... Yes  No
35. A lot of people are against me............................................................... Yes  No
36. I never lie.............................................................................................. Yes  No
37. I often worry about something bad happening to me....................... Yes  No
1. Family members really help and support one another.
2. Family members often keep their feelings to themselves.
3. We fight a lot in our family.
4. We don’t do things on our own very often in our family.
5. We feel it is important to be the best at whatever you do.
6. We often talk about political and social problems.
7. We spend most weekends and evenings at home.
8. Family members attend church, synagogue, or Sunday School fairly often.
9. Activities in our family are pretty carefully planned.
10. Family members are rarely ordered around.
11. We often seem to be killing time at home.
12. We say anything we want to around home.
13. Family members rarely become openly angry.
14. In our family, we are strongly encouraged to be independent.
15. Getting ahead in life is very important in our family.
16. We rarely go to lectures, plays or concerts.
17. Friends often come over for dinner or to visit.
18. We don’t say prayers in our family.
19. We are generally very neat and orderly.
20. There are very few rules to follow in our family.
21. We put a lot of energy into what we do at home.
22. It’s hard to “blow off steam” at home without upsetting somebody.
23. Family members sometimes get so angry they throw things.
24. We think things out for ourselves in our family.
25. How much money a person makes is not very important to us.
26. Learning about new and different things is very important in our family.
27. Nobody in our family is active in sports, Little League, bowling, etc.
28. We often talk about the religious meaning of Christmas, Passover, or other holidays.
29. It’s often hard to find things when you need them in our household.
30. There is one family member who makes most of the decisions.
31. There is a feeling of togetherness in our family.
32. We tell each other about our personal problems.
33. Family members hardly ever lose their tempers.
34. We come and go as we want to in our family.
35. We believe in competition and "may the best man win."
36. We are not that interested in cultural activities.
37. We often go to movies, sports events, camping, etc.
38. We don't believe in heaven or hell.
39. Being on time is very important in our family.
40. There are set ways of doing things at home.
41. We rarely volunteer when something has to be done at home.
42. If we feel like doing something on the spur of the moment we often just pick up and go.
43. Family members often criticize each other.
44. There is very little privacy in our family.
45. We rarely have intellectual discussions.
46. Everyone in our family has a hobby or two.
47. Family members have strict ideas about what is right and wrong.
48. People change their minds often in our family.
49. There is a strong emphasis on following rules in our family.
50. Family members really back each other up.
51. Someone usually gets upset if you complain in our family.
52. Family members sometimes hit each other.
53. Family members almost always rely on themselves when a problem comes up.
54. Family members rarely worry about job promotions, school grades, etc.
55. Someone in our family plays a musical instrument.
56. Family members are not very involved in recreational activities outside work or school.
57. We believe there are some things you just have to take on faith.
58. Family members make sure their rooms are neat.
59. Everyone has an equal say in family decisions.
60. There is very little group spirit in our family.
61. Money and paying bills is openly talked about in our family.
62. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.
63. Family members strongly encourage each other to stand up for their rights.
64. In our family, we don't try that hard to succeed.
65. Family members often go to the library.
66. Family members sometimes attend courses or take lessons for some hobby or interest (outside of school).
67. In our family each person has different ideas about what is right and wrong.
68. Each person's duties are clearly defined in our family.
69. We can do whatever we want in our family.
70. We really get along well with each other.
71. We are usually careful about what we say to each other.

72. Family members often try to one-up or out-do each other.
73. It's hard to be by yourself without hurting someone’s feelings in our household.
74. "Work before play" is the rule in our family.
75. Watching T.V. is more important than reading in our family.
76. Family members go out a lot.
77. The Bible is a very important book in our home.
78. Money is not handled very carefully in our family.
79. Rules are pretty flexible in our household.
80. There is plenty of time and attention for everyone in our family.
81. There are a lot of spontaneous discussions in our family.
82. In our family, we believe you don’t ever get anywhere by raising your voice.
83. We are not really encouraged to speak up for ourselves in our family.
84. Family members are often compared with others as to how well they are doing at work or school.
85. Family members like music, art, and literature.
86. Our main form of entertainment is watching T.V. or listening to the radio.
87. Family members believe that if you sin you will be punished.
88. Dishes are usually done immediately after eating.
89. You can't get away with much in our family.
90. We always strive to do things just a little better the next time.
THE PERSONALITY INVENTORY FOR CHILDREN
David Lachar, Ph.D.

1. My child often plays with a group of children.
3. Other children often get mad at my child.
4. My child worries about things that usually only adults worry about.
5. My child has many friends.
6. My child seems average or above average in intelligence.
7. My child's manners sometimes embarrass me.
8. My child has a good sense of humor.
10. My child is worried about sin.
11. Other children don't seem to listen to or notice my child much.
13. My child has little self-confidence.
14. I often wish my child would be more friendly.
15. My child can comb his (her) own hair.
16. My child is usually rejected by other children.
17. My child seems to enjoy destroying things.
18. Now and then my child writes letters to friends.
19. Thunder and lightning bother my child.
20. The school says my child needs help in getting along with other children.
21. My child often asks if I love him (her).
22. Other children look up to my child as a leader.
23. My child could ride a tricycle by age five years.
25. My child frequently complains of being hot even on cold days.
26. My child's behavior often makes others angry.
27. Recently my child has complained of eye trouble.
28. Others think my child is talented.
29. My child frequently has gas on the stomach (sour stomach).
30. My child is good at lying his (her) way out of trouble.
31. My child often cheats other children in deals.
32. My child is good at leading games and things.
33. At one time my child had speech difficulties.
34. Pester ing others is a problem with my child.
35. My child can cut things with scissors as well as can others of his (her) age.
36. My child doesn't seem to care to be with others.
37. My child has difficulty doing things with his (her) hands.
38. Others think my child is mean.
39. My child seems to know everyone in the neighborhood.
40. My child would never take advantage of others.
41. My child can be left home alone without danger.
42. My child jumps from one thing to another.
43. My child has been in trouble for attacking others.
44. My child seems too serious minded.
45. My child has more friends than most children.
46. When my child gets mad, watch out.
47. My child really has no real friend.
48. My child is as happy as ever.
49. My child often complains that others don't understand him (her).
50. My child has very few friends.
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<tr>
<th>Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>51</td>
<td>My child likes to play active games and sports.</td>
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<td>52</td>
<td>Sometimes I worry about my child's lack of concern for other's feelings.</td>
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<tr>
<td>53</td>
<td>Often my child is afraid of little things.</td>
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<td>54</td>
<td>My child tends to see how much he (she) can get away with.</td>
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<tr>
<td>55</td>
<td>My child almost never argues.</td>
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<tr>
<td>56</td>
<td>My child often disobeys me.</td>
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<tr>
<td>57</td>
<td>My child likes to show off.</td>
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<tr>
<td>58</td>
<td>Others have said my child has a lot of &quot;personality.&quot;</td>
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<tr>
<td>59</td>
<td>My child goes to bed on time without complaining.</td>
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<tr>
<td>60</td>
<td>My child likes to &quot;boss&quot; others around.</td>
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<tr>
<td>61</td>
<td>Reading has been a problem for my child.</td>
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<tr>
<td>62</td>
<td>A scolding is enough to make my child behave.</td>
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<tr>
<td>63</td>
<td>My child sometimes disobeys his (her) parents.</td>
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<td>64</td>
<td>My child is in a special class in school (for slow learners).</td>
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<td>65</td>
<td>My child usually plays alone.</td>
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<td>67</td>
<td>My child often brings home friends.</td>
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<tr>
<td>68</td>
<td>My child learned to count things by age six years.</td>
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<tr>
<td>69</td>
<td>My child could print his (her) first name by age six years.</td>
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<tr>
<td>70</td>
<td>My child doesn't seem to learn from mistakes.</td>
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<td>71</td>
<td>My child can't seem to wait for things like other children do.</td>
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<tr>
<td>72</td>
<td>My child always does his (her) homework on time.</td>
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<tr>
<td>73</td>
<td>My child is usually a leader in groups.</td>
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<tr>
<td>74</td>
<td>Sometimes my child lies to avoid embarrassment or punishment.</td>
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<tr>
<td>75</td>
<td>Other children make fun of my child's different ideas.</td>
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<td>76</td>
<td>Sometimes my child's muscles twitch.</td>
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<td>77</td>
<td>My child worries about talking to others.</td>
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<td>78</td>
<td>My child first talked before he (she) was two years old.</td>
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<td>79</td>
<td>School teachers complain that my child can't sit still.</td>
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<td>80</td>
<td>My child has some bad habits.</td>
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<td>81</td>
<td>Several times my child has spoken of a lump in his (her) throat.</td>
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<tr>
<td>82</td>
<td>My child frequently has nightmares.</td>
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<tr>
<td>83</td>
<td>My child almost never acts selfishly.</td>
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<td>84</td>
<td>My child is usually in good spirits.</td>
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<tr>
<td>85</td>
<td>My child seems fearful of blood.</td>
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<td>86</td>
<td>My child seems more clumsy than other children his (her) age.</td>
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<td>87</td>
<td>My child will do anything on a dare.</td>
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<tr>
<td>88</td>
<td>My child sometimes becomes envious of the possessions or good fortune of others.</td>
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<tr>
<td>89</td>
<td>Shyness is my child's biggest trouble.</td>
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<td>90</td>
<td>Usually my child gets along well with others.</td>
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<tr>
<td>91</td>
<td>My child gets lost easily.</td>
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<tr>
<td>92</td>
<td>My child often has headaches.</td>
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<tr>
<td>93</td>
<td>My child seems to get along with everyone.</td>
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<td>94</td>
<td>My child is easily embarrassed.</td>
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<td>95</td>
<td>My child is very popular with other children.</td>
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<td>96</td>
<td>My child gets confused easily.</td>
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<td>97</td>
<td>My child is almost always smiling.</td>
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<td>98</td>
<td>My child loses most friends because of his (or her) temper.</td>
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99. My child is shy with children his (her) own age.
100. My child was difficult to toilet train.
101. My child wants a lot of attention when sick.
102. My child can count change when buying something.
103. My child can tell the time fairly well.
104. Many times my child has become violent.
105. My child can take a bath by him (her) self.
106. Recently my child has complained of chest pains.
107. There is seldom a need to correct or criticize my child.
108. My child has as much pep and energy as most children.
109. Recently the school has sent home notes about my child's bad behavior.
110. Sometimes my child will put off doing a chore.
111. My child often talks about death.
112. My child has been difficult to manage.
113. Sometimes my child's room is messy.
114. My child is usually afraid to meet new people.
115. My child almost never needs punishing or scolding.
116. My child could eat with a fork before age four years.
117. Often my child complains of blurring (blurred vision).
118. My child needs protection from everyday dangers.
119. My child respects the property of others.
120. Frequently my child will put his (her) hands over his (her) ears.
121. Everything has to be perfect or my child isn't satisfied.
122. Spanking doesn't seem to affect my child.
123. My child talks a lot about his (her) size or weight.
124. My child often will cry for no apparent reason.
125. My child will worry a lot before starting something new.
126. My child usually looks at the bright side of things.
127. My child often has crying spells.
128. Sometimes my child gets hot all over without reason.
129. My child seems tired most of the time.
130. Others have remarked how smart my child is.
131. My child takes illness harder than most children.
132. My child tends to pity him (her) self.
133. Others always listen when my child speaks.
134. Several times my child had complaints, but the doctor could find nothing wrong.
135. I often wonder if my child is lonely.
136. Usually my child takes things in stride.
137. My child is likely to take remarks the wrong way.
138. Little things upset my child.
139. My child keeps thoughts to him (her) self.
140. It has been a long time since our family has gone out together.
141. My child has never mentioned his (her) heart racing or pounding.
142. My child has usually been a quiet child.
143. At times my child yells out for no reason.
144. My child has never had cramps in the legs.
145. At times my child yells out for no reason.
146. My child is liable to scream if disturbed.
147. My child has no special talents.

148. Our family seem to enjoy each other more than most families.

149. My child broods some.

150. My child could do better in school if he (she) tried.

151. My child never liked to be cuddled.

152. Our marriage has been very unstable (shaky).

153. The child's father seems jealous of the child.

154. I am afraid my child might be going insane.

155. My child seldom talks about sickness.

156. My child has had convulsions.

157. My child often gets up at night.

158. Most of my child's friends are younger than he (she) is.

159. There is a lot of swearing at our house.

160. My child never takes the lead in things.

161. My child takes criticism easily.

162. My child sometimes swears at me.

163. My child is not worried about disease.

164. My child seems bored with school.

165. The child's parents are now separated or divorced.

166. My child gets exhausted so easily.

167. I can't get my child to do his (her) school lessons.

168. My child stays close to me when we go out.

169. Often my child goes about wringing his (her) hands.

170. The child's parents have broken up their marriage several times.

171. Sometimes my child runs errands for me.

172. It is not unlikely that my child will stay in the house for days at a time.

173. My child has had brief periods of time when he (she) seems unaware of everything that is going on.

174. My child has never had face twitchings.

175. My child usually runs rather than walks.

176. My child is different from most children.

177. My child is afraid of dying.

178. My child believes in God.

179. My child doesn't seem to care for fun.

180. Often my child will sleep most of the day on a holiday.

181. My child often stays in his (her) room for hours.

182. My child has never had any paralysis.

183. My child seldom breaks rules.

184. How to raise the child has never been a problem at our house.

185. Several times my child has threatened to kill him (her) self.

186. My child usually doesn't trust others.

187. My child has many friends of the opposite sex.

188. My child seems unhappy about our home life.

189. Others often remark how moody my child is.

190. The trouble with my child is a "chip on the shoulder."

191. Nothing seems to scare my child.

192. My child doesn't seem to be interested in practical things.

193. My child can't seem to keep attention on anything.

194. The child's parents are not active in community affairs.
195. My child tends to swallow food without chewing it.
196. My child loves to stay overnight at a friend's house.
197. School has been easy for my child.
198. My child can't sit still in school because of nervousness.
199. I do not approve of most of my child's friends.
200. Constipation has never been a problem for my child.
201. My child is often restless.
202. Several times my child has been in trouble for stealing.
203. My child seldom complains of stomachaches.
204. My child has never failed a grade in school.
205. My child is afraid of strangers.
206. The child's parents can't seem to live within their income.
207. My child loves to work with numbers.
208. My child has never been in trouble with the police.
209. My child seldom visits a doctor.
210. My child's favorite stories are fairy tales or nursery rhymes.
211. The child's father doesn't understand the child.
212. Dizzy spells are no problem with my child.
213. The child's father drinks too much.
214. My child tends to brag.
215. My child would rather be with adults than with children his (her) own age.
216. My child tends to be pretty stubborn.
217. My child seldom talks.
218. Our whole family seldom gets to eat together.
219. Reading is my child's favorite pastime.
220. The child's father usually makes the important decisions at our house.
221. "Bad days" are frequent with my child.
222. My child insists on keeping the light on while sleeping.
223. My child seems to prefer adults to children.
224. My child is dependent on others.
225. My child gets common colds more often than most children.
226. The child's parents disagree a lot about rearing the child.
227. Often my child locks himself (herself) in the bedroom.
228. Often my child will laugh for no apparent reason.
230. My child is not as strong as most children.
231. Others have remarked how self-confident my child is in a group.
232. Others often remark how sensible my child is.
233. My child seems to understand everything that is said.
234. Sometimes the child's father will go away for days after an argument.
235. Money seems to be my child's biggest interest.
236. I have often found my child playing in the toilet.
237. The child's father sometimes gets drunk and mean.
238. My child is a healthy child.
239. My child thinks others are plotting against him (or her).
240. Usually my child plays inside.
121

241. The child's father seldom misses work.
242. Often my child takes walks alone.
243. The child's parents have set firm rules that must be obeyed.
244. Often my child will wander about aimlessly.
245. Several times my child has threatened to run away.
246. At times my child has difficulty breathing.
247. There are always a lot of arguments at our dinner table.
248. My child plays with friends who are often in trouble.
249. My child seldom has nose bleeds.
250. My child has never been expelled from school.
251. My child whines a lot.
252. My child has never run away from home.
253. My child shows unusual talent.
254. Speaking up is no problem for my child.
255. I had an especially difficult time with temper tantrums in my child at an early age.
256. Sharing things has been no problem for my child.
257. The child's parents always discuss important matters before making a decision.
258. My child smokes at home.
259. The child's father frequently "blows up" at the child.
260. My child is shy with adults.
261. I have heard that my child drinks alcohol.
262. My child is rather absent-minded.
263. My child is afraid of the dark.
264. My child boasts about being sent to the principal in school.
265. My child never has fainting spells.
266. The child's father is too strict with the child.
267. My child will never clean his (or her) room.
268. My child is able to keep out of everyday dangers.
269. Most of my child's time is taken up watching television.
270. Frequently my child has a high fever.
271. The child's father is hardly ever home.
272. Sometimes I don't understand what my child means.
273. My child is exceptionally neat and clean.
274. My child speaks of him (her) self as stupid or dumb.
275. There is a lot of tension in our home.
276. Several times my child has threatened to kill others.
277. The child's father spends very little time with the child.
278. My child seldom has back pains.
279. The child's father has very little patience with the child.
280. The child's parents frequently quarrel.
281. My child's feelings are easily hurt.
282. My child has trouble making decisions.
283. My child is a good loser.
284. If my child can't run things, he (she) won't play.
285. My child is always telling lies.
286. Often my child destroys other children's toys.
287. My child usually feels sorry when he (or she) has hurt others.
288. Sometimes my child gets so nervous his (her) hands shake.
<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>289</td>
<td>My child is small for his (her) age.</td>
</tr>
<tr>
<td>290</td>
<td>Sometimes I think I'm too easy with the child.</td>
</tr>
<tr>
<td>291</td>
<td>My child has hit a school official (teacher, etc.).</td>
</tr>
<tr>
<td>292</td>
<td>Usually my child kisses his (her) parents before going to bed.</td>
</tr>
<tr>
<td>293</td>
<td>My child was a blue baby.</td>
</tr>
<tr>
<td>294</td>
<td>My child sometimes thinks he or she is someone else.</td>
</tr>
<tr>
<td>295</td>
<td>As a younger child, it was impossible to get my child to take a nap.</td>
</tr>
<tr>
<td>296</td>
<td>At one time my child was unconscious with an injury to his (her) head.</td>
</tr>
<tr>
<td>297</td>
<td>My child seldom gets a restful sleep.</td>
</tr>
<tr>
<td>298</td>
<td>My child has had to have drugs to relax.</td>
</tr>
<tr>
<td>299</td>
<td>As a child, my child hit other children on the head with sharp toys.</td>
</tr>
<tr>
<td>300</td>
<td>My child often complains of being hungry.</td>
</tr>
<tr>
<td>301</td>
<td>Stuttering has been a problem for my child.</td>
</tr>
<tr>
<td>302</td>
<td>My child will beg until I give in.</td>
</tr>
<tr>
<td>303</td>
<td>Certain foods make my child ill.</td>
</tr>
<tr>
<td>304</td>
<td>My child usually undresses him (her) self for bed.</td>
</tr>
<tr>
<td>305</td>
<td>At times my child pulls out his (her) hair.</td>
</tr>
<tr>
<td>306</td>
<td>My child usually comes when called.</td>
</tr>
<tr>
<td>307</td>
<td>My child sweats very little.</td>
</tr>
<tr>
<td>308</td>
<td>Eating is no problem for my child.</td>
</tr>
<tr>
<td>309</td>
<td>I have found out my child has had sex play with the opposite sex.</td>
</tr>
<tr>
<td>310</td>
<td>My child first sat up before he (she) was one year old.</td>
</tr>
<tr>
<td>311</td>
<td>My child sometimes hears things others don't hear.</td>
</tr>
<tr>
<td>312</td>
<td>My child belongs to a gang.</td>
</tr>
<tr>
<td>313</td>
<td>My child tends to talk faster than he (she) can think.</td>
</tr>
<tr>
<td>314</td>
<td>My child is sometimes cruel to animals.</td>
</tr>
<tr>
<td>315</td>
<td>My child is afraid of animals.</td>
</tr>
<tr>
<td>316</td>
<td>My child shows a lot of affection for a pet.</td>
</tr>
<tr>
<td>317</td>
<td>My child is more nervous than most children.</td>
</tr>
<tr>
<td>318</td>
<td>Usually my child eats all the food on his (her) plate.</td>
</tr>
<tr>
<td>319</td>
<td>My child carries a weapon (knife, club, etc.).</td>
</tr>
<tr>
<td>320</td>
<td>I feel I am very close to my child.</td>
</tr>
<tr>
<td>321</td>
<td>My child has never been elected to an office in a club or school.</td>
</tr>
<tr>
<td>322</td>
<td>My child sometimes feels things that aren't there.</td>
</tr>
<tr>
<td>323</td>
<td>My child worries about hurting others.</td>
</tr>
<tr>
<td>324</td>
<td>My child seems to enjoy talking about nightmares.</td>
</tr>
<tr>
<td>325</td>
<td>At times my child scratches his (her) face until it bleeds.</td>
</tr>
<tr>
<td>326</td>
<td>My child shows a lot of affection for a pet.</td>
</tr>
<tr>
<td>327</td>
<td>Voices sometimes tell my child to do things.</td>
</tr>
<tr>
<td>328</td>
<td>My child has to be coaxed or threatened before he (she) will eat.</td>
</tr>
<tr>
<td>329</td>
<td>My child has had an operation on his (her) head.</td>
</tr>
<tr>
<td>330</td>
<td>Starting school was very difficult for my child.</td>
</tr>
<tr>
<td>331</td>
<td>My child belongs to a club.</td>
</tr>
<tr>
<td>332</td>
<td>My child seems shy with the opposite sex.</td>
</tr>
<tr>
<td>333</td>
<td>My child often tells jokes.</td>
</tr>
<tr>
<td>334</td>
<td>My child often tattles (tells) on others.</td>
</tr>
<tr>
<td>335</td>
<td>We often argue about who is the boss at our house.</td>
</tr>
</tbody>
</table>
336. My child could walk downstairs alone by age five years.
337. My child loves to make fun of others.
338. Blushing is a problem for my child.
339. My child can wash him (her) self as well as other children his (her) age.
340. Often my child smashes things when angry.
341. I have often been embarassed by my child's sassiness.
342. My child has never been in trouble because of sex behavior.
343. My child gives in too easily.
344. Playing with matches is a problem with my child.
345. The child's mother frequently has crying spells.
346. My child cries when scolded.
347. Falling down is a problem for my child.
348. My child sometimes chews on his (her) lips until they are sore.
349. My child loves to rock back and forth when sitting down.
350. The child's father changes jobs frequently.
351. Sometimes my child wets the bed.
352. My child belongs to Boy Scouts, Girl Scouts or some younger branch of these organizations.
353. My child vomits frequently after meals.
354. My child doesn't seem to have any fear.
355. My child is very jealous of others.
356. Five minutes or less is about all my child will ever sit at one time.
357. Neither parent has ever been mentally ill.
358. My child takes sleeping pills to get to sleep.
359. My child won't go into the bedroom without someone else there.
360. Several times my child took money from home without permission.
361. Our family attends church together.
362. Affection is frequently shown in our home.
363. My child is very critical of others.
364. My child seldom gets into mischief.
365. My child often vomits when getting a headache.
366. I always worry about my child having an accident when he (she) is out.
367. My child could be trusted to walk upstairs alone before he (she) was four years old.
368. My child sometimes smears self and walls after going to the toilet.
369. Chewing fingernails is a problem for my child.
370. During the past few years we have moved often.
371. My child will usually admit being wrong.
372. "Head in the clouds" describes my child.
373. My child often wakes up screaming.
374. Arguing is my child's biggest downfall.
375. At times my child just keeps on spinning around.
376. Skin rash has been a problem with my child.
377. My child often talks in rhymes.
378. My child has had asthma attacks.
379. My child has more accidents resulting in cuts, bruises, and broken bones than other children.
380. Others don't understand my child.
381. My child doesn't seem to feel pain like others.
382. The child's mother or father has never been divorced.
383. Winning a game seems more important than the fun of playing to my child.
384. My child needs laxatives.
385. I have a problem stopping my child from eating everything.
386. My child sees strange things.
387. Frequently my child argues with others.
388. My child repeats numbers and letters over and over.
389. Recently the child's parents have argued with the school officials.
390. When talking my child often jumps from one topic to another.
391. By the age of five years, my child could dress him (her) self except for tying things.
392. My child most always tells me where he (she) is going to play.
393. The child's parents seldom visit the school.
394. My child is crabby most of the time.
395. A parent should try to treat a child as an equal.
396. My child has frequently been hospitalized.
397. My child likes parties.
398. The child's father gets along fine with the child.
399. Sex seems to concern my child more than others.
400. My child is usually rested after a good sleep.
401. Hardly a day goes by when my child doesn’t get into a fight.
402. My child often sits and reads the dictionary.
403. Working puzzles is one of my child's favorite hobbies.
404. My child has a terrible temper.
405. My child daydreams quite a bit.
406. My child refuses to do anything around the house.
407. My child is adopted.
408. My child always insists on wearing clean clothes.
409. My child didn't have colic as an infant.
410. Often my child sets goals that are too high.
411. My child's headaches usually start with a pain in back of the neck.
412. My child gets pneumonia almost every year.
413. Lately my child has had diarrhea a lot.
414. My child tends to repeat everything (parroting).
415. My child was completely toilet trained by three years of age.
416. My child had difficulty breathing at birth.
417. My child never seems to have a goal.
418. My child refused or couldn't suck as an infant.
419. My child was a premature or overdue baby.
420. Usually my child will sleep all night without awakening.
STANDARDS OF LEARNING (SOL) HAMPTON PUBLIC SCHOOL SYSTEM
READING INSTRUCTIONAL EXPECTATIONS GRADES K THROUGH SIX

KINDERGARTEN
1. Begin to recognize and identify beginning consonants and sounds.
2. Begin to recognize and name upper and lower case letters of the alphabet.
3. Develop listening comprehension skills in order to answer questions about what is read or told to him/her.
4. Recall and arrange objects, pictures, and ideas in sequential order.
5. Classify objects, pictures and ideas.
6. Distinguish and name colors.
7. Identify and name sounds in the environment.
8. Develop an awareness of left and right directionality.
10. Use gross motor skills appropriately (walking, sitting, standing).
11. Distinguish and name body parts.
12. Identify positions (top, middle, bottom; first, next, last).

TOTAL ITEMS = 12  CUMULATIVE TOTAL ITEMS = 12

FIRST GRADE
1. Identify beginning sounds through auditory and visual discrimination.
2. Use context clues to help select the word that makes sense in a sentence.
3. Recognize reading vocabulary for these levels.
4. Identify ending sounds through auditory and visual discrimination.
5. Draw conclusions by using clues while reading a selection.
7. Identify and put at least three events of a selection in sequential order.
8. Recognize the main idea after reading a selection.
9. Interpret pictures to help understand the meaning of a word or passage.
10. Recognize reading vocabulary for this level.
11. Use context clues and consonant blends to help select the word that makes sense in a selection.
12. Use the vowel to assist in accurate decoding (short a, i, u).
13. Identify and put at least three events of a selection in sequential order.
14. Recognize the main idea after reading a selection.
15. Draw conclusions by using clues while reading a selection.
16. Find specific details in a selection.
17. Recognize reading vocabulary, for this level.
18. Use context clues to help select the word that makes sense in a selection.
19. Use the vowel to assist in accurate decoding (short a, e, i, o, u; long a, i, o).
20. Develop an awareness of rhyming and word family groups (patterns) through auditory and visual discrimination.
21. Determine the effect when given the cause.
22. Begin to predict outcomes.
23. Classify words as to: a) color words, b) number words, and configuration patterns to match word forms.
24. Recognize labels in the classroom.
25. Recognize contractions.

**TOTAL ITEMS = 25  CUMULATIVE TOTAL ITEMS = 37**

**SECOND GRADE**

1. Increase basic sight vocabulary for this level with emphasis on association, memorization, visual imagery, and on wide reading experience.
2. Read words through the use of sound symbol relationships, word patterns, and families of words combined with picture clues, context clues, and structural clues.
3. Distinguish among words with various vowel combinations (ay, ai, ee, oa, oi, ou, ow, and v-c-e). Also long e and u.
4. Identify and put a minimum of four events of a selection in sequential order.
5. Identify a clearly stated main idea of a selection.
6. Identify causes when effects are stated in a selection.
7. Read, identify, and understand suffixes -er, -est, -y, -ly, -ful, -less).
8. Read, identify, and understand contractions.
9. Understand the purpose of and use a table of contents.
10. Increase basic sight vocabulary for this level with emphasis on association, memorization, visual imagery, and on wide reading experience.
11. Read words through the use of sound-symbol relationships, word patterns, and families of words combined with picture clues, context clues, and structural clues.
12. Distinguish among words with various vowel combinations (au, eu, oo, oy), the schwa, and "i" controlled vowels.
13. Identify a clearly stated main idea of a selection.
15. Draw conclusions through inferential skills.
16. Increase vocabulary with emphasis on multiple meanings of words.
17. Recognize homographs (words spelled the same) and homophones.
18. Read a selection and answer questions by locating information from the selection (recalling details).
19. Read, identify, and understand suffixes -er, -est, -y, -ly, -ful, -less.
20. Read, identify, and understand prefixes dis-, re-, un-.
21. Understand the purpose of and use a table of contents.
22. Follow written directions of no more than three steps.
23. Alphabetize words to the second letter.

**TOTAL ITEMS = 23  CUMULATIVE TOTAL ITEMS = 60**
THIRD GRADE
1. Continue building reading vocabulary (recognizing and appropriately using words contained in a basic list such as the Dolch list, words from basal reading series, and words used in discussion at school and at home.)
2. Identify new words using context clues and knowledge of phonics.
3. Identify words using context and knowledge of syllables and accents.
4. Find the topic and/or main idea when it is stated in a reading selection.
5. Draw reasonable conclusions or make judgements from information provided.
6. Distinguish between fact and opinion.
7. Understand pronouns as they relate to their antecendents.
8. Recognize contractions of will, have, are, is not.
9. Read, identify, and understand suffixes -able, -ous, -teen, -ty.
10. Use textbook aids and reference sources to locate information (including table of contents, glossaries, dictionaries, graphics, and maps).
11. Continue building reading vocabulary (recognizing and appropriately using words contained in a basic list such as the Dolch list, words from basal reading series, and words used in discussion at school and at home).
12. Identify new words using context clues and knowledge of phonics.
13. Recognize the author's purpose.
14. Find the topic and/or main idea when it is stated in a reading selection.
15. Relate a short story in sequence (arranging in order up to four events).
16. Identify cause and effect as expressed in a selection.
17. Recognize irregular plurals in context.
18. Recognize structural clues such as roots, affixes.
19. Follow written directions up to four steps.
20. Use textbook aids and reference sources to locate information (including table of contents, glossaries, dictionaries, graphics, and maps).
21. Place words in alphabetical order by at least the third letter.
22. Identify and read abbreviations and demonstrate a knowledge of their meanings.

TOTAL ITEMS = 22  CUMULATIVE TOTAL ITEMS = 82

FOURTH GRADE
1. Identify the stated main idea and the implied main idea.
2. Identify details that support the stated main idea.
3. Continue to acquire and expand functional vocabulary of high frequency words.
4. Relate a short story in sequence (using written material) up to six steps.
5. Continue to identify cause and effect as expressed in a selection (inferring cause when effects are stated).
6. Distinguish between fact and opinion in reading a selection.
1. Read a selection and predict the outcome.
2. Identify characters' traits.
3. Recognize different types of literature such as fiction, nonfiction, biography, autobiography, folk tales, and fairy tales.
4. Use clue words such as and, but, or, yet, and because, and relate them to cause and effect and sequence.
5. Continue to recognize and decode words (using phonics, syllabication).
6. Use structural analysis to read and decode words (structural clues such as compound words, prefixes, suffixes, root words).
7. Recognize and demonstrate a knowledge of synonyms, antonyms, and homonyms.
8. Place words in alphabetical order by the third letter.
9. Expand the use of textbook aids such as dictionary, glossary, encyclopedia to increase reading proficiency.
10. Use guide words and know how they relate to the glossary and dictionary.
11. Follow up to a four-step written direction.
12. TOTAL ITEMS = 17  CUMULATIVE TOTAL ITEMS = 99

FIFTH GRADE
1. Scan printed materials to locate particular facts and details.
2. Identify the stated main idea and the implied main idea.
3. Distinguish between fact and opinion in reading a selection.
4. Arrange in sequence up to eight events from a selection.
5. Identify stated and implied cause and effect relationships in reading a selection.
6. Identify character's point of view, motives, and traits.
7. Recognize parts of a story - setting, plot and its climax, and theme.
8. (Enrichment) compare and contrast literary forms such as biographies.
9. Recognize idiomatic expressions.
10. (Enrichment) recognize metaphors and similes.
11. Continue to expand vocabulary.
12. Read more complex selections in order to predict the outcomes.
13. Identify homophones in context and demonstrate knowledge of their meanings.
14. Understand how prefixes and suffixes affect the meaning of words.
15. Determine meaning of words via context clues, and words having multiple meanings.
16. Place words in alphabetical order by the third and fourth letter.
17. Read maps, charts, and graphs to solve problems and/or answer questions.
18. Use a variety of reference sources to locate information or solve a problem such as the dictionary, atlas, encyclopedia, and index.
19. Read information in order to organize it in outline form by main ideas and supporting details.
20. Follow a five-step written direction.

TOTAL ITEMS = 20    CUMULATIVE TOTAL ITEMS = 119

SIXTH GRADE
1. Identify the stated and implied main idea of a selection, including summarizing the main idea.
2. (Enrichment) Identify point of view.
3. Use comparison and contrast to analyze information from printed material and draw conclusions from it.
4. Recognize the major elements of a story (understanding interaction of characters and plot).
5. (Enrichment) Compare two selections in terms of style.
6. Continue to recognize the supporting details of a selection - respond to who, what, when, where, and why questions.
7. Predict outcomes and make judgments.
8. Identify stated and implied cause and effect relationships.
9. Continue to differentiate between fact and opinion.
10. Interpret idiomatic expressions.
11. Place as many as ten events in sequential order.
12. Recognize the use of persuasive techniques.
13. Identify author's purpose (to inform, entertain, or persuade).
14. Use prefixes and suffixes to enhance reading proficiency.
15. Use context clues to: a) supply missing words in a paragraph, b) define words with multiple meanings, and c) determine the meaning of an unknown word.
16. Use synonyms and antonyms to expand vocabulary.
17. Use maps, diagrams, graphs, and an encyclopedia index to answer specific questions.
18. Use the card catalog to locate sources of information.

TOTAL ITEMS = 18    CUMULATIVE TOTAL ITEMS = 137

The formula to calculate the percent of tasks passed compared to grade level:

\[
\frac{\text{The number of items from the previous grade level} + \text{the number of items passed from the current year} - \text{the number of skills not passed from the previous years}}{\text{the total possible for the current year.}}
\]
APPENDIX C

TABLES:

STANDARD DEVIATIONS

MEANS

ERROR OF MEASURES
### RCMAS Subscales (Student Scores)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subscale I:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>26</td>
<td>10.500</td>
<td>2.818</td>
<td>0.553</td>
</tr>
<tr>
<td>S.O.N.S.</td>
<td>26</td>
<td>11.269</td>
<td>2.554</td>
<td>0.501</td>
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<tr>
<td><strong>Subscale II:</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>26</td>
<td>11.269</td>
<td>2.779</td>
<td>0.545</td>
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<td>S.O.N.S.</td>
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<td>10.654</td>
<td>3.162</td>
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<td><strong>Subscale III:</strong></td>
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<tr>
<td>Control</td>
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<td>2.857</td>
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<td>S.O.N.S.</td>
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<td>10.885</td>
<td>2.957</td>
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<tr>
<td><strong>Subscale IV:</strong></td>
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<td></td>
</tr>
<tr>
<td>Control</td>
<td>26</td>
<td>8.615</td>
<td>3.699</td>
<td>0.726</td>
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<tr>
<td>S.O.N.S.</td>
<td>26</td>
<td>7.577</td>
<td>2.759</td>
<td>0.541</td>
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<tr>
<td><strong>Subscale V:</strong></td>
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<td></td>
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<tr>
<td>Control</td>
<td>26</td>
<td>55.423</td>
<td>9.274</td>
<td>1.819</td>
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<td>S.O.N.S.</td>
<td>26</td>
<td>56.654</td>
<td>11.496</td>
<td>2.255</td>
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</table>
### PIC Subscales (Student Scores)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subscale L</strong></td>
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<td></td>
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<td>Control</td>
<td>22</td>
<td>51.864</td>
<td>12.934</td>
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<tr>
<td>S.O.N.S.</td>
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<td>44.480</td>
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<tr>
<td><strong>Subscale F</strong></td>
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REFERENCES


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Titchener, J. L., Riskin, J., and Emerson, R. The family psychosomatic process. 


VITA

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Virginia Association of School Psychologists
Virginia Psychological Association
Council for Exceptional Children
National Reading Association
Virginia Reading Association
ABSTRACT

A DESCRIPTIVE INVESTIGATION UTILIZING A FAMILY SYSTEMS PERSPECTIVE TO STUDY ELEMENTARY SCHOOL CHILDREN WHO FREQUENTLY BECOME SEEKERS OF NURSE SUPPORT (S.O.N.S.) AND THEIR FAMILIES

Fletcher, David Bruce, Ed.D.
The College of William and Mary in Virginia, 1986

Chairman: Dr. Ruth K. Mulliken

It has been accepted that in order to maximize the educational growth of a child, the student should experience instruction in a consistent, uninterrupted fashion. Children who are disruptive, act-out, or otherwise obstruct the flow of knowledge may encounter problems when they must build upon information not learned at an earlier time. Students who frequently complain to their teachers of health issues or are sent to the nurse repeatedly, may suffer because of this break in their learning experiences. Family therapy research has shown that older students' excessive health concerns can develop into severe, chronic disabilities but little work has been done with the younger elementary age pupils. This research is directed toward exploring possible variables that may set children who frequent the nurse (Seekers of Nurse Support or S.O.N.S.) and their parents apart from a matched group of control children and their parents.

Ten elementary schools were selected as being representative of the population from an urban Virginia school system. The target schools were balanced by ethnicity, income and location to parallel the city breakdown in these areas. Children who frequented the school nurse more than three times per week were given the Revised Children's Manifest Anxiety Scale (RCMAS) and the Moos Family Environment Scale (FES). Control children were matched by age, sex, ethnicity and grade and the RCMAS and the FES were administered. The school system's Standards of Learning test (SOL) was used as the measure of achievement. The parents of the S.O.N.S. and the controls were interviewed using the Personality Inventory for Children (PIC) and the FES.

The t-test and Tukey's Quick Test were performed on the achievement measures and found no difference between the groups. The FES showed a significant difference between the groups regarding conflict with the control group.
being more overt and demonstrative in their expression. No significant differences were seen between the two groups of students on their degree of anxiety. Equal and unequal variances were examined with no differences noted.

The analysis of the family measures showed the FES as not significant. The PIC, on the other hand, showed significant differences in achievement, anxiety, hyperactivity and the lie scale. A discriminant analysis was performed on the four significant subtests and proved capable of separating the two groups of students.

A multivariate analysis of variance (MANOVA) was carried out to examine the effect of sex and ethnicity as well as the interactive effect. No significant differences were noted.

There appears to be support for the hypothesis that there are family variables present which impact on the students who show an over-concern with health issues. The number of significant variables noted was not as large as hypothesized, but due to the exploratory nature of the project they were of interest. A longitudinal study with additional measures certainly is worthy of consideration based on these findings.