AN ANALYSIS OF STRESSORS, COPING STRATEGIES AND LEISURE TIME USAGE IN THE URBAN ELEMENTARY SCHOOL CHILD

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by

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Abstract

This study examined children's stressors, coping strategies, and participation and interest in leisure time pursuits. Quantitative data were collected through the administration of a self-report questionnaire to 69 fifth and sixth graders in three urban schools. Internal reliability, construct and content validity of the instrument were deemed to be appropriate. The most commonly reported stressors pertained to health, defining their own individuality from interpersonal pressures, developing a degree of competence, and finding out where they fit within the larger school and social context. In coping, the children reported attempts to find ways to make themselves feel better without hurting either themselves or other people, with some attempt to control what happens to them. Socializing was an important component of both participation and interest in extracurricular activities. The results of the MANOVA revealed a significant difference between gender and interest in extracurricular activities, with females reporting a higher level of interest in leisure time pursuits than males.

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CHAPTER I

Introduction

Stress can no longer be regarded as solely an adult problem. Due to the impact of societal, familial, and educational expectations, normal, healthy children are encountering stressful situations daily. Children are bombarded with more to learn, more to worry about, and more choices, temptations, and pressures. However, it is only in the past ten years that stress research has started to focus on the area of childhood. Previously, children were considered to be simply a source of stress to adults, the view often being that childhood is a carefree period immune from worry.

An investigation of childhood stress, coping strategies, and leisure time usage will help educators to understand how these factors affect children's social, emotional, psychological, and intellectual development. This understanding could provide the foundation for (a) the development of approaches to help children learn about their stress and (b) the development of coping strategies that will enable them to grow into well-adjusted adults.

Purposes of the Study

The purposes of this study were: (a) to investigate the sources and degrees of stress in school children; (b) to

examine their coping strategies; (c) to examine the children's leisure time usage; and (d) to examine inter-individual differences in stress, coping strategies, and leisure time usage, according to selected biographical variables.

Rationale and Significance

In our post-industrial culture, the degree of stress and the number of stressors affecting human life have often become excessive, if not harmful. Stress may be an inevitable part of everyone's life, but stress related problems should not be considered inevitable (D'Aurora & Fimian, 1988; Sensor, 1986). Today, stress is playing an ever increasing role in the lives of children, both positively and negatively. Anderson and Fulton (1987) described so aptly that: "Stress is an expected and normal part of human development; and stress marks the passage of developmental milestones throughout life" (p. 2).

> Without stress, life could never be. The rhythms of living are formed by tension and relaxation. Tensions or stress builds up, is resolved, is built up again, and resolved again. Stress may be increased, facilitated, or eliminated by events from outside of the individual. People vary in their ability or capacity to deal with different kinds of stress. This quality of resilience appar-

> ently varies from birth, and may have a genetic component; but it is also likely that this resiliency is fostered or reduced by environmental conditions - particularly in the early years. (Anderson & Fulton, 1987, p. 1)

To investigate stress from the perspective of the child is timely and necessary. Elkind (1981) pointed out that "today's child has become the unwilling, unintended victim of overwhelming stress--the stress borne of rapid, bewildering social change, and constantly rising expectations" (p. 3). The success ideation of our society results in stress being experienced at a very early age and continuing throughout the person's life. Children in our modern society are maturing more quickly. However, many children are exposed to confusing values and are not prepared to deal with adult-like crises (Duraj, 1984). Children are less prepared to cope with stress "because they have not had the time and guidance needed to acquire a healthy sense of self-esteem and self-identity" (Elkind, 1986, p. 34).

The hectic schedules of the work force has caused time to become a precious commodity. One of the consequences of this is the loss of private, unscheduled leisure between parents and children.

> The very culture of children, of freedom and fantasy and kids teaching kids to play jacks, is

> collapsing under the weight of hectic family schedules. [Children] understand that they are being cheated out of childhood ... Eight-year-olds are taking care of three-year-olds ... There is a sense that adults don't care about them ... It may be that the same loss of leisure among parents produces this pressure for rapid achievement and over-programming of children ... If parents see parenting largely as an investment of their precious time, they may end up viewing children as objects to be improved rather than individuals to be nurtured at their own pace. (Gibbs, 1989, pp. 52-53)

Teachers and the school's organizational structure reinforce time urgency, reward promptness and encourage competitiveness, fostering cumulative, subtle signs of stress in children. Yet, as children mature it becomes increasingly important to develop skills in the areas of: cooperating with others in a social network, persuading others to adopt to their plan of action, and entering into an activity involving mutual responsibility (Maccaby, 1983). If significant adults in children's lives do not take action to help them cope with stress, when they punish or disapprove rather than attend to the children's natural responses to perceived threat, they activate a vicious cycle that may have serious consequences for the children's physical, emotional, and intellectual

development (Johns & Johns, 1983).

Adult attitudes toward and about children can also create stressful situations for them (Bauer, 1987). The sacrificing parents who continuously place their children's needs before their own cause the possibility of the parents resenting the children. Parents vicariously living through their children can place the added pressure of "measuring up". Some adults assume unrealistic independence and super achievement from children today, putting pressure on them and their parents (Ivany, 1989; Gibbs, 1989).

> Too many children today conform because they fear they won't be approved or loved unless they live up to the expectations of some external authority, like a parent [or teacher]. We must learn to let them feel loved and valued for who they are, not for what we want them to be. (Schroeder, cited in Ivany, 1989, p. 100)

The child's burden is twofold, with his or her fear of disappointing the parent or teacher paired with a possible lack of interest in the activity. The parent who is unsure of a child's love thereby refuses to say no and does not provide the opportunity for the child to cope with boundaries of acceptable and unacceptable behavior with the predictability of consequences (Bauer, 1987). The resiliency of children does not preclude the need to help them deal with a crisis or

fear (Bauer, 1987).

The development of children's effective coping strategies is affected by how the influential adults control their frustration reactions and engage in competent problem-solving in their lives. Adults need to support and encourage children in their exploration of progressive solutions. Parents' and teachers' knowledge of the individual child is vital in the determination of whether a change in behavior or an increase in behavior is an indicator of a child's attempt to cope with stress. It is hoped that this study will:

1. Provide valuable information that will expand educators' knowledge and understanding of the role of childhood stress and its psychological, emotional and behavioral effects.

2. Make recommendations for educators to help children to better identify and manage the stress in their lives and to apply preventative programs and procedures where possible.

The Stress Concept

This study will employ an interactional conceptualization of stress. This orientation envisions stress as "an integrated, multi-dimensional response involving at least the physiological, cognitive, and behavioral systems, occurring when people perceive the demands of a situation to exceed their coping response" (Hiebert, 1988, p. 226; Selye, 1976).

This orientation assumes that (a) thoughts, feelings, and actions are all interconnected in the stress response and (b) that regardless of the type of stress triggers or stressors--biological, psychological, sociological, philosophical--the body reacts the same way (Greenberg, 1987). Whatever the stressor's nature, perceived stress elicits a physical reaction and an associated mental response (Schafer, 1987). The pituitary, thyroid, parathyroid, and adrenal glands, as well as the hypothalamus and other parts of the brain, are activated by stressors (Greenberg, 1987). Rutter (1983), in the examination of physiological responses to stressors, describes the neuroendocrine activation as appearing to be connected to the individual's perception of the event and how he/she responds emotionally to the situation. Thus, emotional and intellectual stress are closely interrelated with physical stress (Schafer, 1987).

In most definitions of stress (Rubenzer, 1986; Arent, 1984; Duncan, 1983; Schultz, 1980; Selye, 1976), behavior is not mentioned; yet, behavior is closely related to the stress response. According to Schafer (1987), behavior is connected to the stress response in the followings ways:

i. Mental and physical arousal are often expressed in behaviors.

ii. Behaviors such as exercise and self-disclosure can help protect against the out-of-control stress response.

iii. Behavior is used to cope with stressors.

iv. Behavior is used to react to distress, either constructively or destructively. (p. 28)

According to Hiebert (1988), perception plays a key role in the interactional model of stress: "Regardless of the accuracy of the person's appraisal of the situation and the coping resources available, a perceived inequity between demand and coping resources produces an increase in stress level" (p. 228). The factors of familiarity and predictability of an event are more influential than the intensity (Maccaby, 1983). Hiebert (1988) describes the stress response from the transitory and chronic perspectives as:

> [transitory stress] ... the person encounters a demand, reacts, perceives the coping attempts as beginning to work, or the demand characteristics as abating, and the system returns to normal with very little harm done to the person's body ... Chronic stress develops when individuals are in intensely demanding situations for prolonged periods of time or if there is repeated activation of the stress response. (pp. 228-229)

"Stress" is being used more frequently to describe a circumstance which motivates and incapacitates us in our modern society; as a concept it has also found "persistent, widespread usage in biology and medicine" (Mason, 1975, cited

in Rutter, 1983, p. 1). Research over the past 40 years has demonstrated connections of stress with many illnesses and diseases, including heart problems, elevated blood pressure, ulcers, depression, bedwetting, stuttering, and cancer (Kroll, 1986; Kuczen, 1984; Duncan, 1983). According to Winters and Winters (1986) "stress, which can be either threatening or pleasurable, causes a reported one thousand chemical and physical changes in the brain and body" (p. 151). Stress is known to stimulate the production of certain hormones while suppressing others (Greenberg, 1987). When stress is prolonged, the persistent elevation of some hormones and the suppression of others could be harmful to the body--"75 to 90% of the ills that afflict us are due to stress" (Winters & Winters, p. 152).

An important point to conceptualize is that stress is not all negative; quite the contrary--stress can be an integral and positive part of daily life (Sensor, 1986). Without a certain amount of stress, there would be little in the way of constructive activity. Stress helps us to respond quickly and strongly to physical emergencies, helps us realize potential over a period of years in athletics, academics, and occupations, sometimes drives us to accomplish things we might not have otherwise attempted, adds zest and variety to daily life and calls attention to the need to resolve a situation of disharmony with others (Schafer, 1987).

To summarize, stress is subjectively experienced by the

individual and is communicated interpersonally in a variety of ways and for numerous reasons. There is an optimal amount of stress--not too much and not too little--that is healthy and prophylactic. Stress can be conceptualized as a multifarious collection of events that is affected by the child's perception of and reaction to those events. There is no event which is stressful for all people at all times under all conditions. It occurs as a result of a threat to the person's being, self-esteem, or identity. Stress can become a secondary but increasingly important feature that will act to exacerbate a behavioral or emotional problem.

> The stress experience is a whole person experience involving mind, body, and behavior ... The stress experience is intricately interwoven with lifestyle --pace of life, pace of change, beliefs and values, scope and quality of relationships, degree and types of involvement in surrounding community, health habits and perceptions. (Schafer, 1987, p. 15)

Children and Stress

Stress events in childhood, as in adult life, may serve to provide at least a short-term difficulty (Bauer, 1987; Rutter, 1983). The nature of stress reactions to events and the effective coping strategies an individual draws upon changes with age. As the Government of Canada (1980, cited in Csapo, 1989) stated,

> Children are not usually adversely effected by a single source of stress, but circumstances may conspire to overwhelm families with misfortunes. Children are much more likely to develop behavior problems and intelligence and achievement deficits when they are subjected to several different types of stress at the same time. (p. ii)

A complex interaction of the event with (a) child's expectations, (b) the number of other stressors impacting on the child, (c) the time span between stressful events, (d) past experiences, (e) current coping patterns, and (f) the demand for readjustment, will affect how a child handles stress (Sensor, 1986).

Research on stress with adults provides some basic trends to examine with children. One of the important differences with children is that their developmental level affects the understanding of how their bodies are reacting to stress, as

well as how to deal with stress (Johns & Johns, 1983). Also, children lack the control of their lives that many adults enjoy (Bauer, 1987). As children mature, their conceptualization of the adult authority figure changes from an obedient attitude--reliance on external guidance that acts as a buffer against vulnerability to stress--to a gradual shift towards reliance on self-regulation and peer relationships (Maccaby, 1983).

> The self is progressively defined in terms of a set of aspirations, ideals, competencies and ego investments. The child is much more vulnerable in the invested than noninvested regions ... With increasing age, children make increasing use of social comparison in evaluating their own performance ... With age, there is increasing sensitivity to, and understanding of others to the self. (Maccaby, 1983, pp. 226-227)

Self-esteem, time usage, and locus of control are influenced by the development and maintenance of peer acceptance, thereby causing further individualization of experienced stressors. The risks involved in childhood stress are greater when the stress is ongoing or overwhelming; the ensuing consequences can include deviations from normal development and emotional or behavioral difficulties (Shier, 1984).

Research Procedures into Children's Stress

Analytic research involving comparisons of types of childhood stressors and coping strategies is relatively recent (Paterno, 1987). Consequently, there is no widely accepted instrument to measure daily hassles and coping strategies (Elwood, 1987; Paterno, 1987). According to Elwood there is a need to develop an instrument which can be easily completed by the children themselves to identify and assess their coping strategies from their perspective. There are only a few studies that employ a self-report measure with school children (Yamamoto, Soliman, Parsons & Davis, 1987; Yamamoto & Byrnes, 1987; Webb, Vandevere & Ott, 1984; Philips, 1978). According to Yamamoto and Byrnes (1987), "school children in upper elementary grades can assess the stressfulness of events in a reliable and discriminating manner, regardless of an actual experience or the lack thereof" (p. 117). This is a premise for the development of a self-report instrument to investigate the causes and manifestations of stress, coping strategies, locus of control, time management, and time usage in the daily lives of children. Most of the research on childhood stress has focused on life events, yet everyday stressors can have a "multiplier effect"; thus, daily hassles may be major sources of stress for children (Band & Weisz, 1988).

Refer to Chapter III for further details on research procedures in children's stress.

Definitions

Stress: "an integrated, multi-dimensional response involving at least the physiological, cognitive and behavioral systems, occurring when people perceive the demands of a situation to exceed their coping response" (Hiebert, 1988, p. 226).

Stressor: any internal or external demand on the mind or body (Schafer, 1987).

Coping: a pattern of cognitive or behavioral response to demands, in which occurs search, effort, direct action and shaping of events and/or attitudes; encourages a feeling of being capable, calm, confident and able to meet a challenge, regardless of the outcome success level (Saunders & Remburg, 1984; Schafer, 1987).

Biographical Variables: (a) gender - male and female; and (b) grade - five and six.

Daily Hassles: minor, recurrent, daily events which occur often but are not likely to alter the structure of the child's world (Elwood, 1987).

External Locus of Control: the belief that what happens to the person is due to luck, chance, fate, or powerful others (Nowicki, 1984).

Internal Locus of Control: the belief that one is able to influence events and one's reaction to events (Schafer, 1987).

Perception: the individual's personal assessment of demand intensity and coping adequacy in determining the level of stress experienced (Hiebert, 1988).

Scale I: "Causes and Manifestations of Stress": five-point Likert Scale format to assess cognitive, behavioral and physiological components of stress that are school, peer and self-related in the areas of:

1. intrapersonal (health, attitude towards self)
2. interpersonal (interaction with others, attitudes toward others)
3. time management (use and organization of time)
4. locus of control (internal or external)

Scale II: "Coping": five-point Likert Scale format to assess the coping strategies of the children in the sample.

Scale III: "Leisure Time Usage--Participation": four-point Likert Scale format to assess the participation level in 18 selected extracurricular activities.

Scale IV: "Leisure Time Usage - Interest": three-point Likert Scale format to assess the interest level in the 18 selected extracurricular activities.

Research Questions

To explore childhood stressors, coping strategies, and leisure time, answers were sought to three general questions. For purposes of data analysis, these general questions were

subsequently divided into sixteen research questions.

General Question 1: What are the stressors children experience on a daily basis in and out of school?

1.1 What is the mean factor score for Scale I (Causes and Manifestations of Stress)?

1.2 What is the mean score for each of the four specific categories of Scale I: (a) Intrapersonal (health and attitudinal); (b) Interpersonal; (c) Locus of Control; and (d) Time Management?

1.3 What are the mean scores of the ten highest rated items in Scale I?

1.4 What are the mean scores of the three highest rated items in each of the four specific categories of Scale I?

1.5 What are the mean scores for gender and grade in Scale I?

1.6 Is there a significant difference between the mean scores for gender and grade in Scale I?

General Question 2: What are the coping strategies of the children in the sample?

2.1 What is the mean score for Scale II (Coping)?

2.2 What are the mean scores of the ten highest rated items in Scale II?

2.3 What are the mean scores for gender and grade in Scale II?

2.4 Is there a significant difference between the mean scores for gender and grade in Scale II?

General Question 3: How do children between the ages of 10 and 12 use their leisure time?

3.1 What is the mean score for Scale III (Leisure Time Usage - Participation)?

3.2 What is the mean score for Scale IV (Leisure Time Usage - Interest)?

3.3 What are the mean scores of the ten highest rated items in Scales III and IV?

3.4 How are the children's participation and interest levels in extracurricular activities related?

3.5 What are the mean scores for gender and grade in Scales III and IV?

3.6 Is there a significant difference between the mean scores for gender and grade in Scales III and IV?

Limitations

1. In the sample selection procedures, the researcher did not control the number of school children according to the biographical variables of gender and grade.

2. This investigation occurred during one point in the school year. The factors studied may vary during different times of the year for a respondent. Children were requested to answer the questionnaire items in terms of "the present time".

3. The list of causes and manifestations of childhood

stress, coping strategies, and time usage may not be an exhaustive one. Variations in item generation may have occurred if different people had been involved in these procedures.

4. The self-report format of the instrument to investigate causes and manifestations of childhood stress, coping strategies, and time usage has inherent limitations. It may not take into account that individual children may be unskilled at the task of self-analysis and may at times be unmotivated. Different children may interpret the meanings of the items differently and they may develop a compliant or socially desirable response set.

5. Only grade five and six students in an urban setting were included in the sample.

CHAPTER II

Review of Related Literature

The primary focus of the present investigation was definitive in terms of the identification of everyday stressors, coping strategies, and extracurricular activities of children. During the process of research the investigation explored a particular approach--children's self-report--as a means to measure stress, coping, and leisure time. Research literature was reviewed in three areas. First, literature relating to childhood stress was initially reviewed, elements specific to the school setting were then examined, followed by literature dealing with strategies and factors of children's coping. Finally, literature pertaining to children's use of leisure time was studied. The format of this review is outlined below:

Overview of Childhood Stress

- Sources and Effects
- Signs and Signals
- Stress and Schooling

Children Who Cope

- Strategies for Coping With Stress
- Social Support

Leisure Time

Overview of Childhood Stress

Sources and Effects

Greene (1988), in a study designed to investigate early adolescents' (fourth to sixth grade) perception of stress events and range of reactivity, reported death of a pet as receiving the highest frequency, followed by death of a relative, grades, and illness/injury. The stress events generating the highest means for disruptive impacts and affective responses were grades, exams, and homework. In terms of stressors by category, personal loss accounted for 29%, school context 16%, and peer-related 12%. Two significant differences regarding school-related stressors were that females described a higher incidence, and the incidence of this type of stressor increased with the grade level for the total sample. Greene pointed out that the impact of school-related stressors disrupted general routine, peer relationships, sleep patterns, eating habits, self-esteem, and finally, functioning in the school context. Females reported a higher incidence of stressors related to peers than did the males.

Paterno (1987) summarized the sources of childhood stress as described by other writers in the following table (see pp. 21-22).

Table 2.1

Sources of Childhood Stress (Paterno, 1987, p. 3)

Honig (1986)

- ecological (living conditions)
- socioeconomic status
- catastrophes and terrors
- family events (birth, loss, handicap, etc.)
- spouse problems (separation, divorce, etc.)
- mental illness of parents
- inept parenting practices

Saunders (1984)

- problems at home; divorce, chronic illness, racial differences in the neighbourhood
- pressure to perform
- separation from the family
- peer pressure
- body changes and sexual identity

Elkind (1984, 1986)

- family change: emotional overload
  - responsibility overload
  - change overload
- peer pressure
- academic and schools events
- contemporary media
- accidents

Arent (1984)

- stress in school: grading
  - competition
  - classroom management

(table continued)

	methods of discipline
	child/teacher relationships
	peer relationships
	special problems
	teacher personalities

Chandler (1985)

Normal Developmental Stress:	meeting reality demands differences in adult and child perceptions
Endemic Stress:	social trends affecting parenting
	social trends affecting sex roles and identity
Specific Stress (crises):	divorce
	hospitalization
	learning problems

Given the fact that most of these studies were based upon adult perceptions, Paterno (1987) conducted a study to investigate the stressors and coping strategies as perceived by school children themselves. The coping component of this study will also be discussed under the theme "Children Who Cope" later in this chapter. The sample consisted of 94 primary children (grades 1 and 3) and 207 middle school students (grade 5 to 8) who were predominately Caucasian and of middle socioeconomic status in eastern Kentucky. The results, through the means of the null hypothesis of equality,

were high frequency levels of stress for school work and achievement; peer relationships; loss of personal space, comfort, or time; injury or loss; and discipline. In the stress types of physical injury/loss, loss of personal space, comfort, and time, and discipline, there was a significant decrease in mean frequencies from the primary to the middle school grades. In school work and achievement and peer relationships, there was a significant gain in the mean frequencies from the primary to middle school students.

In an interview study, Dibrell and Yamamoto (1988) investigated the concerns of 46 children aged between four and ten years. The clusters that emerged were: (a) being lost or abandoned; (b) hospitalization; and (c) parental conflict.

O'Brien (1988) described stress as a creeping phenomenon in the lives of children due to: (a) parents experiencing high levels of stress; (b) pace of life in today's society; (c) pressure to succeed; and (d) fear and uncertainty. One of the perspectives Anderson and Fulton (1987) described in their paper Children Under Stress, was the ecology of stress as can be visually depicted in Figure 2.1.

The framework for viewing youth stress proposed by Reed and Carlson (1987) conceptualized the stress response cycle in five stages: shock and denial, anger, depression and detachment, dialogue, and acceptance. These stages occur during the loss of control phase of a major change or stress experience. Children may move back and forth between the stages, but they

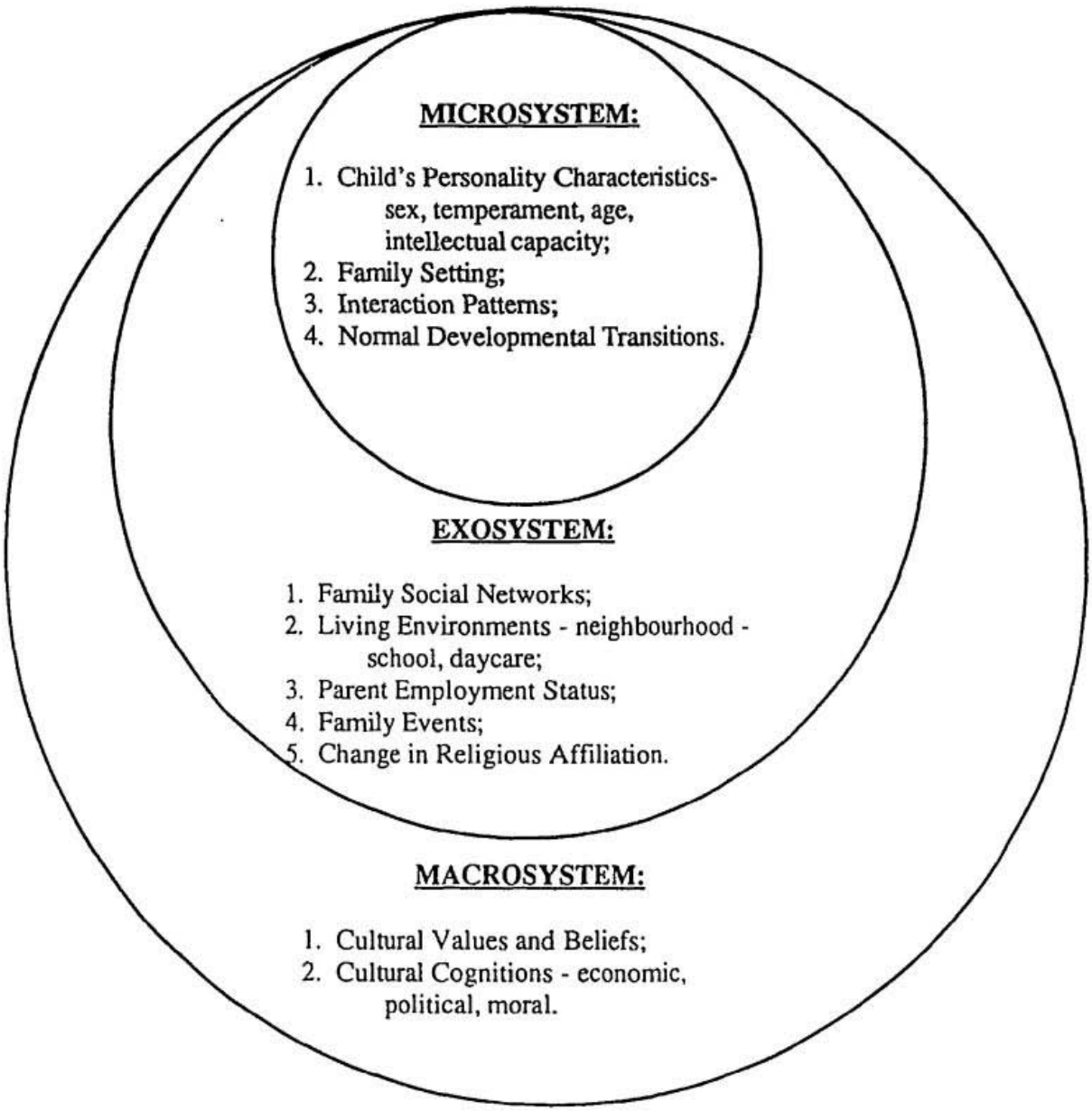


Figure 2.1 Continuous Interaction of Stressors In and Between the Three Systems (Anderson & Fulton, 1987)

will progress to the recovery of control. Reed and Carlson (1987) explained the typical reactions of each stage as shown in Table 2.2 (p. 26).

Chandler's (1984) four factors of a multi-dimensional assessment of children's stress was cited as the structure Karr and Johnson (1987) used to guide the evaluation of instruments. The four factors and the corresponding instruments were:

1. "identification of stressors in the child's life" - Coddington's (1972) Life Events - Children.

2. "the child's perception of those stressors" - Philip's (1978) Children's School Questionnaire.

3. "the child's behavioral adjustment" - Chandler's (1983) Stress Response Scale.

4. "assessment of the impact of stressor on the child's health, school and social functioning" - no instrument was given due to the school psychologist's familiarity with this area.

Elkind (1986) described the three basic forms of "surface stress" and the symptoms of middle graders to each specific form. Stress situations that are both foreseeable and available (Type A) include opportunities to experiment with alcohol and sex, availability of drugs, and in turn the subsequent peer pressure. Anxiety was the common reaction to these situations. Type B stress situations that are neither foreseeable nor avoidable would be a loss felt through parent

Table 2.2

The Five Stages of Youth Stress (Reed & Carlson, 1987, p. 3)

Stage	Internal Feelings	External Signs
1	Shock and denial	Dazed, dull look; refuses to admit a loss has occurred; may appear overly involved.
2	Anger	May become upset easily; may behave aggressively; seems more agitated.
3	Depression and Detachment	Headaches and stomach aches; eating and sleeping disturbances; sadness and crying; unable to plan, reason, or be logical; very tired; diminished social interactions; attempts to protect self from further loss.
4	Dialogue	Starts talking to trusted people; asks, "What's going to happen to me now"?
5	Acceptance	Feels more control; has mostly "good" days; takes risks again; more social interests.

separation/divorce, moving to a new neighbourhood, or accidental death of a known young person. Depression was cited as the prevalent symptom of Type B stressors. Tests, written and oral reports, and term papers that could be foreseeable but unavoidable were classified as Type C stressors. The symptoms of Type C stress situations would be projected anger, finding fault, avoiding responsibility, or "do-nothing response."

In an exploratory study of stressors and symptoms of 60 students (grades 1 to 12), Omizo, Omizo and Suzuki (1988) found that children of different levels have similar and yet different kinds of stressors. The stressors for elementary school children were: (a) family problems--relationships with parents and siblings; (b) feeling different--inferiority; (c) school-related problems--performance concerns, expectations, and homework; (d) discipline--fearfulness of punishment and unfair, inconsistent punishment; and (e) general anxiety--the feeling of not being in control. Stressors of intermediate students were: (a) general adolescent problems of adapting to their developmental changes; (b) peer pressure; (c) family problems--parents not understanding, and sibling relationships; (d) not feeling in control; and (e) school-related problems--relevance of school, performance concerns, interactions with others, and transition between school levels. High school students mentioned such stressors as decisions about future plans, choosing courses related to career aspirations, teacher-student relationships, peer pressure, substance abuse,

and family problems. The symptoms of stress were categorized as psychological, physiological, behavioral, and emotional and are described in the following section--Signs and Signals.

In an on-going longitudinal study of stress and coping in childhood, Wertlieb, Weigel and Feldstein (1987) concluded:

1. A highly significant positive relationship exists between stress and behavior symptoms for both life events and daily hassles.

2. The strongest relationship between stress and behavior symptoms was demonstrated for undesirable life events.

3. The conceptualization of daily hassles for the measurement of stress explained 10 to 18% of variance in behavior symptoms. Given this observation, daily hassles and behavior symptomatology, relative to major life events, needs to be seriously examined when measuring stress.

4. Social support as a buffering or moderating role in the relationship between stress and illness was evident, with a strong inverse relationship between a family's social support and child behavior symptomatology.

Swearingen and Cohen (1985), in a study designed to investigate the etiologic role of negative life events in the maladjustment of seventh and eighth grade students, found noteworthy discrepancies in the findings. Cross-sectional regression analyses revealed a positive relationship between negative life events and psychological distress whereas,

according to prospective analyses, negative events were not predictive of distress. The stress-buffering effects of positive events were supported by this study. The effects of on-going stressful family processes and developmental changes were cited as the variables that may possibly affect adolescents' perspective, rather than discrete events. This study provides empirical support that the traditional life events approach, given its relatively poor predictive ability, may not be the most appropriate means to study adolescents' and children's maladjustment.

Yamamoto and Byrnes (1987) conducted a study of 548 children (first, third, and sixth grade) to assess whether the children's general developmental status affected the perception of unpleasantness of a life event. Primary children's assessments were in general agreement with upper elementary through junior high students in "losing a parent" and "going blind" being ranked high while "new baby sibling," "going to dentist," and "giving class report" received the low rankings. Yamamoto and Byrnes noted appreciable variations in the perceptions of several individual experiences:

1. "getting lost" and "sent to the principal" decreased in the level of perceived stressfulness between grades three and six;

2. "having an operation" decreased between grades one and three; and

3. "suspected of lying" and "move to new school"

increased with the frequency of experience and grade level.

Yamamoto et al. (1987) reported that the life events of 1814 primary Australian, Canadian, Egyptian, Japanese, Filipino, and American children had an overall similarity in their self-report ratings of how unpleasant and upsetting these experiences were. "Losing a parent" was ranked as the most stressful, followed by "going blind," "parental fights," "academic retainment," "wetting in class," "caught in theft," and "suspected of lying." The least stressful experiences were "going to the dentist," "giving class report," and "new baby sibling." This study provided empirical support for the concept of "culture of childhood" as seen from the inside out by children across different cultures.

The study by Simmons, Burgeson, Carlton-Ford and Blyth (1987) was designed to examine the "synchronicity" of early adolescent life transitions as it jeopardizes the child's ability to adjust. Grade point average (GPA) was found to be significantly negative in relation to marital disruption. GPA and extracurricular participation decreased for males who experienced more changes within a short period of time. A girl's self-esteem and extracurricular participation lowered as she experienced multiple life changes. The effect of GPA was curvalinear for females, indicating that after some time, each subsequent life change, whether it was school transition, onset of puberty, or dating, made the overall coping process more difficult.

Signs and Signals

The signs and signals children send to communicate stress in their lives occur in various ways and their reactions may be different at different times. An awareness of these stress symptoms (refer to Table 2.3) would help parents and educators in their attempts to facilitate the development of effective coping strategies for children.

Table 2.3

Summary of Stress Symptoms According to the Literature

Dickey and Henderson (1989)

- headaches
- stomachaches
- mood swings
- belligerent behavior

D'Aurora and Fimian (1988)

Emotional Responses:

- anxiety
- insecurity
- pressure
- vulnerability
- angry in school
- frustrated
- mixed up
- upset
- nervous

(table continued)

Biobehavioral Fatigue Manifestations:
- extended duration of stomach pain
- dizziness
- fatigue
- defensiveness
- crying
- breakdown of friendships

Behavioral Manifestations:
- getting into fights
- talking back to teachers
- picking on other students
- talking in class
- playing the class clown

Physiological Manifestations:
- headaches
- stomachaches
- feeling sick in one's stomach

O'Brien (1988)

- headaches
- stuttering
- eating problems
- out-of-control crying
- sleeping problems
- pain in neck
- general tiredness
- stomach upset
- dry mouth or throat
- nervous behavior
- shortness of breath
- dizziness/weakness
- grinding teeth
- irritability
- restless/excess energy
- depression

(table continued)

Omizo, Omizo and Suzuki (1988)

depressed
impulsive
aggressive
antisocial
self-destructive
irritable

Kersey (1986)

wetting the bed
biting nails
complaining of stomachaches and headaches
having nightmares

Falk and Falk (1986)

headaches
stomachaches
acting out
dropping grades
absenteeism

Rubenzer (1986)

Type A personality characteristics described as:
tension
extreme psychomatic illness - stomachaches, headaches, depression

Nealis and Miller (1984)

headaches
school problems - repeating one or more grades, marked changes in grades, difficulty keeping up with assignments

Honig (1986) described the behavioral characteristics of young children who experience high levels of stress in the following extensive list:

> Doesn't respond to friendly caregiver overtures.
> Daydreams frequently.
> Has grave, solemn face; rarely smiles or laughs (check first for iron deficiency; see Honig and Oski, 1984).
> Has frequent prolonged temper tantrums.
> Cries a great deal for months after entry into group care (even though caregivers have been gentle and responsive).
> Acts sullen, defiant (says "I don't care" frequently when caregiver explains how misbehavior has hurt another).
> Punishes self through slapping, head banging, or calling self bad names ("bad boy").
> Is overly sensitive to mild criticism.
> Flinches if teacher or visiting adult approaches with caressing or reassuring gesture or outstretched arm.
> Reports proudly to teacher that he or she has hurt another child.
> Is overly vigilant about others' misdeeds, tattles, or jeers.
> Is highly demanding of adults although usually fairly self-sufficient.
> Bullies or scapegoats and may get other children to join in.
> Carries out repetitive, stereotyped play that may have destructive aspects.
> Clings to, shadows caregiver, although in group for months.
> Is unable to carry out sustained play with preschool peers.
> Has constant need to sleep although physically well.

Is preoccupied with lightning, images of monsters or other violent, threatening figures.
Has dull, vacant expression, as if trying to ward off thinking about stressful trauma or tries to deny stressful feelings.
Is hyperactive or restless, wanders around room, touches and disturbs toys and games, cannot settle into constructive play.
Displays disturbed bodily functions, has trouble with feeding, constipation, or diarrhoea, soils self frequently months after toilet training is completed.
Has trembling of hands or facial twitches although apparently well.
Talks compulsively about physical dangers and threats.
Grinds teeth during nap time.
Has rigid facial expressions from taut muscles.
Displays loss of perceptual acuity.
Displays reduced attentional capacity, even though caregiver is very clear in communicating; the child cannot focus well on activity or request.
Stimulates self constantly (by prolonged thumb-sucking, masturbation, rocking body back and forth, or other such behaviors), which children normally do occasionally for self-comfort.
Feels jittery.
Stutters, use diffluent speech, or refuses to talk in group (older preschooler).
Is clumsy on easy manual tasks due to muscular tensions.
Frequently acts aggressively against others, even adults.
Has nightmares. (p. 53)

This section has summarized the sources, effects, signs, and signals of childhood stress.

Stress and Schooling

School settings place performance and relationship demands on children during the major portion of their waking hours (Forman & O'Malley, 1984). Two major categories of stressors for students are (a) achievement stressors, and (b) social stressors (Philips, 1978).

To determine what elementary students worry about, Crowley (1981) studied 438 students from the third through the eighth grade. Grades were found to be the primary worry across the grade levels, although one-half of the children also worried about physical harm to themselves or loved ones.

Peer relationships is a school-related stressor. Students who were rejected and actively disliked by their age-mates were assessed to be more lonely than the neglected ones (Asher & Wheeler, 1985). Aggressive behaviors in schools, including peer bully, antisocial peer pressure, teacher intimidation, threat and punishment, unruly classrooms and playgrounds, and destruction of school property, are sources of childhood stressors (Blom, Cheney & Snoddy, 1986). Bullying and victimizing are the most damaging peer interactions (Blom et al.). According to Blom et al., other school-related stressors are: (a) children with disabilities; (b) academic pressure; (c) excessive competition; and (d) family mobility, as it places added demands and pressures on these children. "Highly anxious students were found to engage in more problem behavior, were disliked by the peers, had poor

self-concepts, and were lower in school achievement and school aptitude" (Forman & O'Malley, 1984, p. 162).

D'Aurora and Fimian (1988), in an article on student stress and burnout, described nondata-based and empirical models of stress sources and manifestations. They suggested that the sources of student distress consist of:

1. Various types of changes--school entry, transition between levels, and the final years;
2. Nonacceptance of peers;
3. Inability to make friends easily;
4. Inability to learn in school;
5. Inadequate leisure time; and
6. Poor grades.

The social/academic events of "teacher power over students, being or becoming the class pet, parental expectations, being fidgety, procrastinating, having to deal with excessive or ambigucus information, and becoming fatigued" (p. 48) acts as stress producers. The in-school relationships of "repetitious school work, difficulty conversing and communicating with the teacher, loneliness, and excessive interruptions during classroom routine" (p. 48) were cited as components of stress inducing experiences and poor instructional relations. Helms (1985) found that,

> Those students demonstrating poor interactions with teachers, who had problems dealing with academics, who experienced deteriorating interactions with

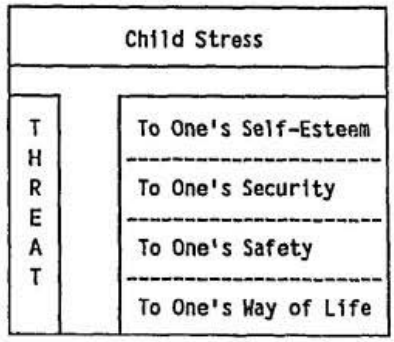
> peers, and who manifested poor academic self-concepts were those who also manifested higher than average Emotional, Behavioral, and Physiological Stress Manifestations. (cited in D'Aurora & Fimian, p. 48)

Fimian and Cross (1986), in a study designed to investigate classroom stress and burnout of 200 gifted students, concluded that students experience a degree of burnout in the classroom. The stress sources for preadolescents and adolescents

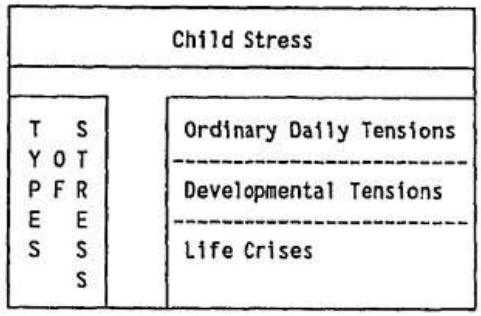
> Stemmed more from oneself, while burnout were attributable more to a combination of poor self-esteem, an externalized locus of control, and a number of classroom "hassles." Overall, the number of sources of burnout for both groups were the same as those for stress, but different in terms of type. (p. 264)

The organization of the school played a more significant role in student burnout in terms of the relative intensity of three factors--Emotional Exhaustion, Depersonalization, and a lack of Personal Accomplishment (D'Aurora & Fimian, 1988; Fimian & Cross, 1986). Students who experienced intense emotional exhaustion detached themselves from both peers and teachers and they did not recognize their classroom accomplishment (D'Aurora & Fimian). Figure 2.2 visually depicts five

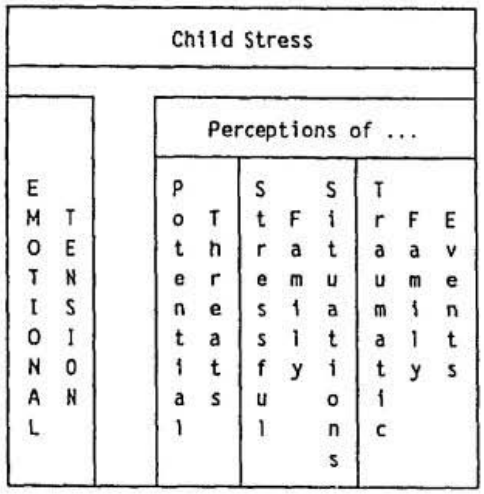
SCHULTZ (1980)



MOORE (1975)

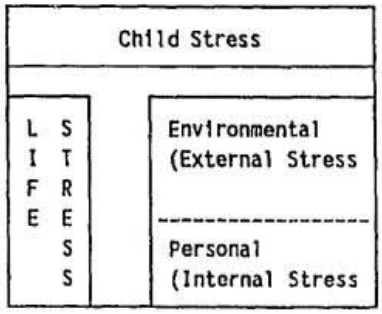


CHANDLER (1981)



(p. 45)

LAZARUS AND COHEN (1977)



MCNAMEE (1982)

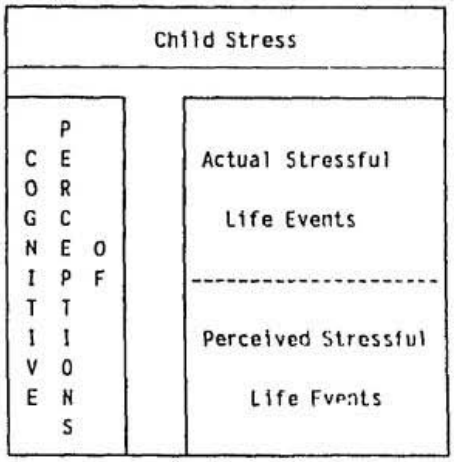
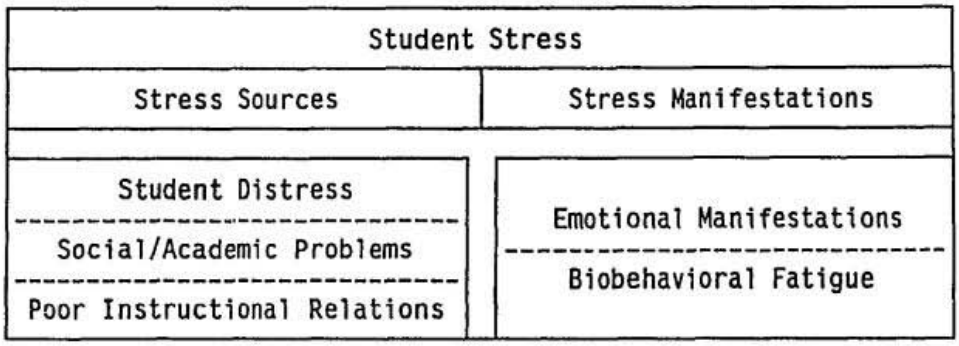
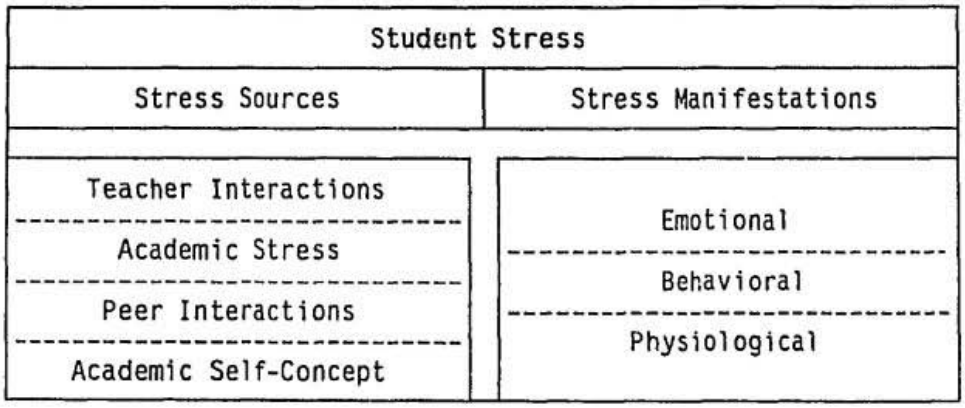


Figure 2.2 Five Definitional Models of Childhood Stress

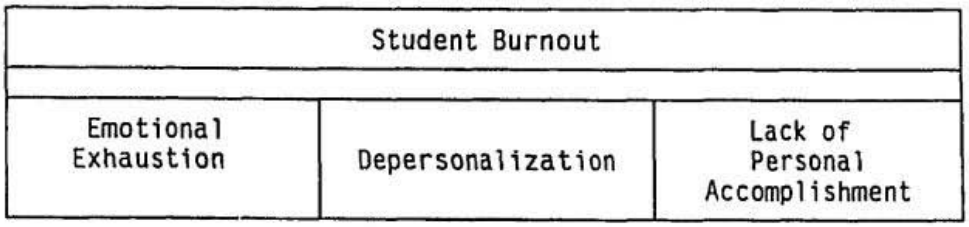
FIMIAN (1986)



HELMS (1985)



FIMIAN (1986)



(p. 47)

Figure 2.3 Empirical Breakdown of Student Stress and Burnout

nongifted students. According to Healy and Parish the findings suggested that gifted and nongifted males and gifted females appeared to operate from an internal locus of control and be more self-reliant and autonomous; therefore, they were not as stressed by the expectations of others. The researchers postulated that nongifted females may confront others' expectations of perfection and others' nonacceptance more often than the other three groups and, possibly, lack the internal stamina to resist these external pressures.

The successful adaptation to the school organization system and its demands for achievement and behavior may be the initiators, emphasizers, or triggers of stress for many students (Hurrelman, 1984). Hurrelman discovered, by means of qualitative analysis, that according to West German teachers, parents, and students, the meaning and purpose of school was the selection of appropriate courses as the preparation for one's future.

> The risk of stress will be present if a combination of several single factors [large schools, big classes, complex organization of school and lessons, overladen and unclear curriculums, high demands on performance, severe rating of performance, and pedagogically imprudent teachers] occur together with an event of failing, which is perceived by the student as being serious and important. Stress on students can always be perceived

> when a specific combination of functions occurs which results in an unfavourable "climate" and which meets a student's personality which is sensitive to this. The individual stress of a child or adolescent in school cannot be considered in isolation from objective organizational constellations and their subjective perception. (p. 187)

From the students' subjective point of view, failure in school was attributed to self-accusation and to mastering the curriculum as it was affected by teachers' styles of behaving, teaching, and dealing with students. Teachers, on the other hand, perceived school failure to be related to the students' capacity to learn and their behaviour as it was affected by personality, family education, and societal variables. According to the findings, teachers did not view the school organizational structures to be significant factors. This discrepancy highlights the "socially rooted processes of estrangement" between teachers and students. The difficulty in accepting the mutual demands of the school organizational system is thereby fostered by neither group carrying the responsibility for functioning and performing.

Grannis (1987) conducted a longitudinal study to investigate student stress in an intermediate, urban school in a black, low-income neighbourhood. He pointed out that the students were able to consistently self-report the subtle distinctions between internal and external locus of control,

between appraisal versus frequency of stressor events, and between different events to be upset about. Both genders indicated that the perception of some other agent being in control lessened between the sixth and seventh grade. The frequency of stressor events was amplified by externality and had an association with distress. An external locus of control tended to correlate negatively with academic performance. Males appraised stressor events as significantly less upsetting in the seventh grade than in the eighth. Females consistently reported getting upset about something more frequently than did the males. The appraisal of stressor events was associated positively with grade point average but not with reading and math performance. Appraisal correlated significantly with tests and grades for males, in separate analyses by gender, but with neither for females. The appraisal of stressor events was not consistently related to distress for either males or females. Both boys and girls perceived the frequency of stressor events to happen less in seventh grade than in the sixth. Stressor frequency and academic performance were observed to be negatively associated. The frequency was associated positively with distress for both genders. The frequency the students ascribed to the stressor event and strength of their tendency to appraise the event functioned quite differently from each other.

Dickey and Henderson (1989) interviewed 141 primary children to find out their perception of stress in an academic

setting. The following stress types accounted for 79.8% of the stressors:

1. School work--tests, grades, and homework as well as understanding work assignments and completing creative projects correctly;

2. Peer relationships--peer pressure, friendships, sharing, playing, and arguing;

3. Personal injury or loss--getting hurt, pushed or kicked, theft, emergency drills, and destruction or loss of personal belongings; and

4. The loss of personal comfort, space, or time.

The coping strategies most often mentioned were:

1. Direct action--pursuing a solution to eliminate or relieve the stressor;

2. Distraction--engaging in some activity to divert attention away from the stressor;

3. Social support--seeking physical and/or verbal comfort from family, peers, or teachers; and

4. Acceptance--resigning to the notion that nothing can be done.

Johns and Johns (1983) compared the experience of stress and burnout in both adults and children. Children's level of cognitive maturity confounds their understanding of the physical reaction to stress and the ways they can deal with stress. According to Johns and Johns, children may cope with stress by avoiding school, people, and learning or reacting to

the school environment and stressors by bullying or disturbing others, or by responding to adults in a disrespectful manner. The stress cycle in children was described as:

> Stress and a sense of threat become particularly disconcerting when the child feels she has no control over the situation. ... Rather than seeing a child's lack of attention as her way of coping with stress, some [adults] read it as laziness, and scold and humiliate the child. When that happens, the vulnerable student feels additional threat; locked into her response to stress (because she knows and has been taught no other), the child reacts by showing even greater disinterest in school matters, which further provokes the [adult], who further threatens the child, and so on. (p. 48)

The previous section has discussed stress and schooling issues such as: grade, school living conditions, peer relationships, competition, and relationships with teachers.

Children Who Cope

Strategies for Coping With Stress

Paterno (1987) summarized several articles which stated coping strategies in children. The primary approaches were as

follows:

Honig (1986)

ignoring unpleasant situations
find compromises
accepting substitute satisfactions

Folkman (1984)

emotional focused
problem focused

Stone and Neal (1984)

distraction
situation redefinition
direct action
catharism
acceptance
seeking social support
relaxation
religion

McCrae (1984) (12 of 25 listed coping strategies)

faith
expression of feeling
rational action
positive thinking
restraint
drawing strength from adversity - humor
fatalism
wishful thinking
perseverance
intellectual denial
self-adaption
humor (p. 4)

As described under the theme--Overview of Childhood Stress--Paterno (1987) conducted a study to investigate children's perception of stressors and coping strategies. According to Paterno the lowest reported frequencies were for relaxation, catharsis, and redefinition, while social support was identified as a major coping strategy. The coping strategies of distraction and catharsis for the middle school students demonstrated a significant increase in the mean frequency over the primary students. A significantly lower mean frequency was observed for direct action in the middle school grades.

In Children Under Stress, Anderson and Fulton (1987) pointed out that as a short term approach, children take evasive actions to cope with stress by:

Denial:

- Acts as though stress does not exist.
- May use fantasy as a coping technique. Imaginary friends are common.
- Serves to lessen pain and thus can be useful to preserve equilibrium

Regression:

- Acting younger than years. Becomes dependent and demanding.
- Receives more physical comforting and affection than usual, thus easing the stress.

Withdrawal:

- Take themselves physically or mentally out of the picture.
- Focus on pets, daydreaming, or remove themselves from the situation.

Impulsive Acting Out:

- Conceal their misery by making others angry at them.
- Attention is focused on them, temporary way of easing their feelings of stress. (p. 11)

Vaillant (1977) identified the following five methods children devise to face and handle stressful events:

Altruism: Gain satisfaction from helper role and from knowing that they are useful. They forget their own troubles by helping others. However, they may become so enwrapped in helping that they do not allow themselves to be carefree.

Humor: Children may joke about their difficulties. The humor may be used to express the anger and pain they feel. However, when carried to an extreme, children may lose the ability to cry and to reach out to others.

Suppression: Enables children to set aside their troubles for a time. This can be the time when a child re-groups or regains his or her strength. Carried to an extreme, it can move to the point of

denial.

Anticipation: When children use anticipation they are able to foresee and plan for the next stressful episode. They begin to protect themselves and to accept what cannot be avoided. However, a child may become too fearful and become compulsive about needing to know what is coming next and how to plan for it.

Sublimation: Children may vent their fears, anger or frustrations through absorption in an unrelated activity (sports, hobbies, etc.). These activities give them satisfactions and provide a relief for the stressful events in their lives. However, should they become too absorbed in the activities, other pleasures can be ignored (contacts with peers, parents, etc.). (Cited in Anderson & Fulton, 1987, p. 12)

Reed and Carlson (1987) described eight characteristics of families and individuals who cope well with change and stressors as:

1. Effective communication between family members, including the expression of feelings. ...
2. The ability to work and play together as a family, while at the same time encouraging individual family members to do things on their own.

3. Positive self-esteem is encouraged. ...

4. Pride in family and priority time for family activities. ...

5. The family acts as a support network for its members. ...

6. A willingness to accept temporary help from outsiders. ...

7. Flexibility in family roles. ...

8. Problem-solving skills. ... (p. 4)

Berg (1989) conducted a study of 217 children (5th grade) and adolescents (8th and 11th grade) to examine their knowledge of strategies that are effective in dealing with everyday problems. She did this in terms of the perceived effectiveness of six strategies: (a) adapting to the problem; (b) planning to take action; (c) seeking more information; (d) changing one's perception of the problem; (e) shaping the environment; and (f) selecting another environment. According to the results, the level of effectiveness was reported to be highly dependent on the setting (in or out of school), the time of rating the analogous problem, and the specific problem situation. In assessing students' perception of the effectiveness of "adapting to the problem" in response to solving the specific problems of (a) running against a friend for an office, and (b) damaging something one borrowed, there were subtle differences in grade and gender. Older adolescents and females' profiles of strategy knowledge were more consistent

with the teachers' profiles. In the outside of school setting, the type of problem and time of rating moderated the difference between fifth and eighth graders. Berg reported a modest positive correlation between students' strategy knowledge and self, teacher, and parent ratings of their practical intellectual skills.

Richmond and Beardslee (1988) described resiliency as a concept that involves both "the idea of stressors and the capacity within the child to respond, to endure, or indeed, to develop and master, in spite of the impact of the stressors" (p. 157). The assessment of the systems (such as school, with friends, with family, and relationships to the larger society) in which the child functions would be the essential starting point in evaluation--efficaciousness, self-perception, trust, confidence, self-esteem, and problem-solving orientation--the inner processes of resiliency. Rutter's (1986) study documented the influence of schools on children's development:

> Well-organized well-run schools with high morale among staff are associated with much better outcomes for youth than schools of similar type and funding not so well run ... In terms of resiliency, Rutter also indicated the importance of more psychologically based qualities, including high self-esteem, the range or scope of opportunities available to the child, the reported findings of strict parental supervision provide a structure and con-

> trol within the family in helping the development of children, and the importance of bonds and relationships and of coping skills. (Cited in Richmond & Beardslee, 1988, p. 159)

Band and Weisz (1988) conducted a qualitative study of 73 normal children aged between 6 and 12 years, to examine situational and developmental differences in coping. Primary coping strategies included direct problem-solving, problem-focused crying, problem-focused aggression, and problem-focused avoidance; the secondary coping strategies were listed as social/spiritual support, emotion-focused crying, emotion-focused aggression, cognitive avoidance, and pure cognition. The findings provided empirical support that children as young as six years old self-report attempts to cope with everyday stressors. According to the data, utilizing the Newman-Keuls tests of age effects, a decline in the proportion of primary coping versus an increase for secondary coping was revealed. There was no evidence of main or interaction effects involving gender and no differences were found between the six- and nine-year-olds. On situation specificity children varied their report strategies. For primary coping, significant ($p < .05$) main effects of age were observed in four situations--medical, authority conflict, peer conflict, and school performance. The school failure situation was significant ($p < .01$) for the Age x Sex interaction. The following main age effects were reported.

1. Direct problem-solving abilities in the medical, school failure, and authority conflict situations increased proportionate to age.

2. Problem-focused aggression in the peer difficulty situation increased proportionate to age.

3. Problem-focused avoidance in the medical situation declined in proportion to age.

4. Emotion-focused avoidance in the school failure situation. Significant sex differences were noted for children at age nine ($p < .01$) and boys between ages six and nine years, and between ages nine and 12 years. The stressful episodes of school failure evoked children to try to change the circumstance (primary control coping) whereas in the medical situation they tried to adjust to the circumstance (secondary control coping). The children's coping skills were influenced by cognitive development and situational constraints in terms of the degree to which the event was controllable or not.

In trying to develop a taxonomy of stress and coping processes, Wertlieb et al. (1987) interviewed 176 "upper-middle and upper-class" children aged between seven and 11 years. The problem-focused and instrumental nature of problem-solving, coping directed at the individual's own action or subjective distress, and overt, direct action modes were described as the most prevalent strategies for the sample. Older children reported emotion-management and

intrapsychic types of coping to a greater extent than the younger children. Wertlieb et al. surmised that the child's age and subsequent cognitive development may have been factors to influence this trend. In the strategies with a focus on the self, gender differences were observed as:

> Boys reporting coping in a relatively more individualistic or self-centered way; girls gave relatively greater emphasis to the environment as a focus of their coping efforts. These girls were more likely than boys to describe seeking support from people in the environment as the coping mode. (p. 558)

The determination of developmental changes in 72 primary and elementary children's coping strategies in situations that evoke fear and frustration, such as a medical procedure or an unavoidable wait, was the goal of Altshuler and Ruble's (1989) research. Avoidance strategies were reported to be the overwhelming coping suggestion mentioned by children at all age levels in the sample. The most popular avoidance strategy for the children, regardless of age, was behavior distraction, such as doing something fun, doing something else, playing, reading, or watching television. In examining social support, the sample frequently mentioned affective rather than informational support. The main effect of age supported the hypothesis that with age an increase in informational support

and peer support suggestions would be demonstrated. The mention of the cognitive distraction strategy, involving either thinking about something else, something fun or fantasizing, increases with age, whereas the escape strategy (such as leaving situation, sleeping/closing eyes/taking a nap, trying to get out of it (arguing, or going somewhere else/going outside) decreased. This provides evidence to support the premise that children's ability to manage their emotions in uncontrollable situations by mental, in contrast to behavioral, means improves with their maturity.

Dickey and Henderson (1989) found the coping strategies most often mentioned by primary children were:

1. Direction action--pursuing a solution to eliminate or relieve the stressor;

2. Distraction--engaging in some activity to divert attention away from the stressor;

3. Social support--seeking physical and/or verbal comfort from family, peers, or teachers; and

4. Acceptance--resigning to the notion that nothing can be done.

Social Support

In the effort to research whether social support would mediate the relationship between stress on the child and his or her adjustment, Dubow and Ullman (1989) developed a reliable and valid self-report instrument--Survey of Child-

> effects were found for problem-solving on parent-rated problems, consistent with the results of teacher-rated problems. ... A stress-buffering effect was found for problem solving skills on GPA ... a stress-buffering effect was found for family support on behavior problems ... peer support had the strongest stress-buffering effect on teacher-rated behavior problems. ... In predicting teacher-rated competent behaviors, a main effect was found for peer but not family support. (pp. 1420-1421)

Pryor-Brown and Cowen (1989) conducted a study of stressful life events, support, and school adjustment with 503 fourth through sixth grade urban and suburban children. The results, after hierarchical multiple regression analyses, revealed that "girls and suburban children were better adjusted than boys and urban children ... children who experienced many, compared to few, events were judged both by teachers and themselves to have more serious problems and few competencies" (p. 216). On teacher-related measures, support did not add to the prediction of adjustment.

Leisure Time

Studies of children's use of leisure time are extremely limited. Garton and Pratt (1987) conducted a survey of 247 14

ren's Social Support (SOCSS). According to factor analysis evidence, elementary school children (grades 3 to 6) may not be able to discriminate between emotional and informational support, but do perceive esteem-enhancing support as a slightly separate function. The children in the sample were able to distinguish between family support, peer support, and teacher support. The children's social support networks included: parent, sibling, teacher, friend, coaches, therapists, and parents' friends. Females and older students listed more members of their network. The researchers noted that network size was unrelated to children's appraisals or frequency of social support. However, children who reported to be receiving more support were more satisfied with their support networks.

In 1989, Dubow and Tisak conducted a correlational study to investigate stressful life events and adjustment with 361 third through to sixth graders. A modest relationship between stressful life events and adjustment was found.

> Stress-buffering effects indicated that higher levels of social support and problem-solving skills moderated the negative effects of stressful events on teacher-rated behavior problems. ... In contrast to the stress buffering effects on teacher-rated problem behaviors, main effects on both social support and problem-solving were found on teacher-rated competent behaviors. ... Stress-buffering

to 16-year-old Australian students to explore their participation and interest in extracurricular activities. The factor analysis of the participation data yielded an eight factor solution which was labelled as: (a) drugs, alcohol; (b) feminine; (c) serious; (d) sex and friendships; (e) sport; (f) studious; (g) screen activities; and (h) intellectual T.V. The interest data produced an eight factor solution labelled as: (a) feminine; (b) studious; (c) screen activities; (d) light entertainment; (f) sport; (g) home-based activities; (h) sex and friendship; and (i) home (not drugs, alcohol). There were gender differences cited for both participation and interest. Males participated more in sports and screen-related pursuits whereas females sought "feminine" activities involving fashion, clothes, cooking, sex, and friendships. Females were more interested in feminine activities and light entertainment. Males cited sports (both active and passive) and screen activities as primary interests.

York, Vandercook and Stave (1990) surveyed 142 seventh graders of a suburban Minnesota community, utilizing an open-ended, short-answer questionnaire on preferred and age-appropriate recreation and leisure activities. The reported favorites were:

1. Independent activities - watching television and reading.

2. Activities with friends - shopping and going to the movies.

3. Family - eating out and going on vacation.

4. Home - watching television.

5. School - talking.

6. Community - sports (in general).

7. Electronic equipment - listening to stereo or radio, working on computer, and playing video games.

CHAPTER III

Research Design, Instrumentation, and Methodology

The data collection and analysis procedures used in this study are described under the major headings of research design, research instrumentation, and research methodology. The structure of this chapter parallels the doctoral dissertation of Giles (1987). The first section of this chapter outlines the nature of the study. Section two contains a description of the instrumentation used and a discussion of authenticity and objectivity. In the third section matters related to gaining access, data collection and analysis are chronicled.

Research Design

This study was designed to be descriptive. Major emphasis was placed on factors judged to be relevant to the assessment of childhood stress, coping strategies, and leisure time. Quantitative data sources were used as a basis for describing what bothers children on a daily basis in and out of school, how they deal with it, and how they use their leisure time. In this regard the study identified the extent to which certain characteristics of everyday stressors, coping strategies, and leisure time activities of the sample were perceived to be present.

Research Instrumentation

In keeping with the nature and purpose of this study, a questionnaire was used to collect data, and concerns relating to the authenticity and objectivity of this procedure were addressed.

The Instrument

One type of datum was collected. Quantitative data were obtained by means of fixed response items in the questionnaire. This procedure obtained a large amount of data from the individual child, covering a range of topics and issues. The instrument was administered to students in their classroom setting.

The actual instrument used in the study (Appendix A) involved a questionnaire designed o collect information from elementary school-age children. This questionnaire was comprised of seven sections relating to interpersonal, intrapersonal, locus of control, time management, coping strategies, participation and interest in leisure time activities, and information about the respondent.

In the sections of the questionnaire dealing with interpersonal, intrapersonal, locus of control, and time management--"Causes and Manifestations of Stress" (Student Scale I)--respondents were asked to indicate their perception of the extent to which each of the items described them "at

the present time". The self-report format contained 40 items dealing with cognitive, behavioral, and physiological components of stress that are school, peer, and self-related attributes. Respondents recorded their responses on a Likert-type Scale ranging from five for "always like me," to 1 for "not like me." Specifics regarding each component of the Scale I questionnaire are contained in Table 1 in Appendix B. In the section on 23 coping strategies (Student Scale II), respondents used the same Likert-type Scale to record the degree of how th- "act at the present time" to problems or things that annoy children.

In the sections of the questionnaire dealing with 18 leisure time activities (Student Scales III and IV) respondents were asked to indicate the degree of their participation and interest in the 18 extracurricular activities. In Leisure Time - Participation (Student Scale III) respondents recorded their responses on a Likert-type Scale ranging from four for "almost every day," to one for "seldom." In Leisure Time - Interest (Student Scale IV) children recorded their responses on a Likert-type Scale ranging from three for a "lot of interest," to one for "no interest."

The section requesting information about the respondents asked them to indicate their grade and gender.

Development.

The construction of the instrument began with several

preliminary sessions held with a seven member research team comprised of:

Carolyn Mate, Primary Researcher

Glenys Wellman, Primary Researcher

Dr. Leroy Klas, Educational Psychology, MUN, Researcher and Thesis Supervisor

Dr. Art Sullivan, Psychology, MUN, Researcher

Mr. Tony Simmonds, Psychology, MUN, Researcher

Mr. Dave Brazil, Youth Advisory Council

Ms. Gail O'Keefe, RAINBOWS Program Director

In Preliminary Session One, the team critically analyzed the content of the Wilson Scale for Children. The team discussed the necessary categories of the instrument for the proposed study in terms of a matrix of: external factors such as school, family and home, and community; and internal factors such as interpersonal, time management, health-related, locus of control, coping strategies, and attitudinal (self, others, situational).

In Preliminary Session Two, the team did a critical analysis of the format of the assertiveness and self-concept scale by Mr. Tony Simmonds and Dr. Art Sullivan and the Wilson Scale. Through this analysis it was the consensus that these scales were not sufficiently exhaustive in nature to meet the needs of the proposed study.

In Preliminary Session Three, the members of the research team discussed and confirmed the types of instrument cate-

gories, including a leisure time category, number of items to be initially generated, and the descriptors for the Likert Scale. Actual instrument items would be based on a further evaluation that would result from on a more extensive and detailed review of the literature and the subsequent analysis of the items generated by the team.

Item generation.

This initially occurred with the first three researchers brainstorming on an individual basis. These items were later pooled to form 138 sample items, to be further evaluated by all members of the research team.

The proposed matrix discussed in Session One and the items generated had been selected on the basis of reading in the following areas: (a) child and adolescent development; (b) stress variables; (c) coping mechanisms; and (d) general stress management.

The members of the research team were asked to judge where each item should be placed in the proposed matrix of 18 units of internal and external factors (Figure 3.1).

It was the general consensus of the three researchers that the initial number of items (138) should be reduced to ensure maximum time efficiency in the administration procedures. Given the developmental levels of the subjects, the reduction of items would facilitate their attention and comprehension in responding to the items.

External / Internal	School	Family/ Home	Community
Interpersonal	1	2	3
Time Management	4	5	6
Health-Related	7	8	9
Locus of Control	10	11	12
Coping Strategies	13	14	15
Attitudinal (Self, others, situational)	16	17	18

Figure 3.1 Matrix of Internal and External Factors of Stress

After a review of the team's evaluations of the 138 items, it was apparent that the items could be combined into fewer categories. The instrument was reorganized into the following categories:

1. Intrapersonal (health, attitude towards self).
2. Interpersonal (interactions with others, attitudes towards others).
3. Time management (use and organization of time).

4. Locus of control.

5. Coping (would be in a separate scale). Items were generated from brainstorming and the review of the literature by the three researchers.

6. Time usage (average hours per week spent on extra-curricular activities). A comprehensive list of activities was developed by Dr. Leroy Klas. Other members of the research team were asked to comment on and add to the list.

The reduced item pool and reorganized categories were presented to the full team for further evaluation. Team members were asked to evaluate the category placement of items, to delete unnecessary items, and to reword for clarification purposes. The primary researchers would then evaluate the judges' responses to reduce the number of scale items for the second draft of the instrument.

The judges' approval was given for the second draft of the instrument. Student Scale I, Manifestations and Causes of Stress, included 40 items incorporating intrapersonal, interpersonal, time management, and locus of control categories. Student Scale II, Coping Strategies, was comprised of 24 items. Student Scale III, Time Usage, was comprised of 18 activities.

Pilot study of the questionnaire.

The instrument was administered to a class of 26 grade five students at an urban school in St. John's. The primary

researchers gathered information on the logistics of the procedures and the instrumentation:

1. Student's comprehension of the Likert Scale indicated the need to provide examples for clarification of terms "seldom" and "often".

2. Administration procedures took 35 minutes.

3. The coding system was implemented and proved to be effective.

4. Items needing further clarification to aid children's understanding were noted.

The data obtained from the pilot study were used to assess content validity, construct validity, and reliability through item analysis. This provided the researcher with the opportunity to refine administration procedures as well as to effect minor revisions prior to official data collection.

Following the pilot study, there were three sets of statistics computed for each item. These statistics were the percentage of respondents making each response, item mean with the standard deviation, and item discrimination index. Percentage of respondents making each response on the Likert Scale to each item, item mean, and standard deviation provided information about item response distribution, spread, and skew. The item discrimination procedure demonstrated the extent to which each item discriminated among the respondents in the same manner as the total score. Each item must contribute to the measurement of the interactional conceptual-

ization of stress. If high scores on an item have high scale scores and low scores on the item have low scale scores, the item is discriminating among the subjects in the same manner as the total score and thus would have a high discrimination index. Items that did not discriminate among the subjects in the same manner as the total score were not measuring the same factor as the other items; therefore, these items were rejected. This procedure facilitated a more homogeneous scale. The item scores were correlated with scale scores as an efficient method of computing the item discrimination index. Instrument items that were negatively correlated were not retained. Items that were positively correlated remained.

The primary researchers decided to use a Likert Scale for the Leisure Time Usage section of the instrument. Children in the pilot study found it difficult to conceptualize their extracurricular activities in terms of hours per week. The new format strengthened the internal reliability of the instrument. Garton and Pratt (1987) developed a leisure activities questionnaire, also using a four-point Likert Scale for participation, and a three-point Likert Scale for interest.

Authenticity

In undertaking quantitative research activity the investigator addressed the issues of reliability, validity, and objectivity.

Reliability.

Consistency is the focal point in the concept of reliability (Gold, 1984; Shaughnessy & Zechmeister, 1985). Kirkpatrick and Aleamoni (1983) state that reliability is concerned with the "consistency, predictability, and repeatability of the results" (p. 38). "An instrument's reliability is its consistency, dependability; its ability to yield the same or very similar results when administered to the same individual or group on different occasions" (Kirkpatrick & Aleamoni, p. 42). In emphasizing the critical importance of this issue, Lawlor, Nadler and Camman (1980, cited in Giles, 1987), further state that without reliability, "measures may reflect error variance rather than the real state of the situation being studied" (p. 55). According to Hopkins and Stanley (1981), measurement precision-reliability is a prerequisite for validity. Gold and Kirkpatrick and Aleamoni concur with this statement.

The reliability of the procedures used in this study was determined by assessing the ability of the questionnaire to collect consistent, dependable, and predictable data from the school children in the sample under study. The Cronbach Alpha was performed to assess the internal reliability of the questionnaire.

Reliability coefficients for the instrument are outlined in Table 3.1. This table shows that while most sections of the questionnaire were reliable, lower reliability coeffi-

cients were obtained for Coping Strategies (Student Scale II) and Leisure Time - Participation (Student Scale III) and Interest (Student Scale IV). A reliability coefficient of .80 or greater has been deemed acceptable in most research work.

Table 3.1

Questionnaire Reliability Coefficients

Student Scale		Section		Alpha
1.	Causes and manifestations of Stress			0.83
		(a) Intrapersonal	0.54	
		(b) Interpersonal	0.65	
		(c) Time Management	0.66	
		(d) Locus of Control	0.59	
2.	Coping			0.73
3.	Leisure Time Usage - Participation			0.52
4.	Leisure Time Usage - Interest			0.54

It is noteworthy that Ary, Jacobs and Razavich (1985, cited in Giles, 1987) state:

> ... the degree of reliability needed in a measure depends to a great extent on the use that is made of the results. If the measurement results are to be used for making a decision about a group or even for research purposes, a lower reliability coefficient (in the range of .30 to .50) might be acceptable. But if the results are to be used as a basis for making decisions about individuals, especially important to irreversible decisions, only instruments with the highest reliability are acceptable. (p. 56)

The lower reliability coefficients obtained for Coping (Scale II) could be attributed to a number of causes. The items in Scale II related to various aspects of children dealing with problems or annoyances on a daily basis; thus, it could be that these items meant different things to the different respondents. Therefore, the degree of internal consistency among the items in the section was, perhaps, a contributing factor to the lower reliability coefficient. According to Ary et al. (1985) a reliability coefficient of the type obtained for this section of the questionnaire is more than acceptable for the kind of research undertaken in the present study and the types of decisions to be made.

The narrow range in the responses for the Likert-type Scale of the items contained in the sections of Leisure Time Usage--Participation and Interest (Student Scales III and IV) may have caused these reliability coefficients to be lower. Ary et al. (1985, cited in Giles, 1987) maintained that "the more homogeneous the group is with respect to the trait being measured, the lower will be the reliability coefficient" (p. 58). On the four-point scale of the Participation category of the Leisure Time Usage section, responses ranged from a mean of 1.61 to a mean of 4.02. However, on the three-point scale of the Interest category of the Leisure Time Usage section, responses ranged from a mean of 1.63 to a mean of 2.81. The lack of heterogeneity, given the narrow range of the three-point Likert-type scale of the Interest category, was viewed as contributing to the lower reliability coefficient obtained in this category.

Validity.

"Whether or not the measurement process measures what it purports to measure" (Kirkpatrick & Aleamoni, 1983, p. 38) describes the concept of validity. Gold (1984) and Shaughnessy and Zechmeister (1985) accede with this interpretation. In the present study the issue of validity can arise respecting content validity, construct validity, and the external validity of the research design and the findings.

The content validity of a measuring instrument, as

Kirkpatrick and Aleamoni (1983) state:

> Refers to whether the items on an instrument examine a representative sample of the total possible knowledge subsumed by the subject matter purported to be among the material covered by the test. Here, representative sample means that the knowledge required to correctly answer the items does not overemphasize or underemphasize topic areas within the body of content with respect to their relative proportions of content. (p. 39)

The variables measured by the present study were deemed to be representative of the characteristics of childhood stressors, coping strategies, and leisure time activities, particularly in school and peer situations. The review of the literature served as a basis for developing the items and variables examined in the study.

Ary et al. (1985, cited in Giles, 1987) maintained that "construct validity is concerned with the extent to which a test measures a specific trait or construct" (p. 59). Kirkpatrick and Aleamoni (1983) state that "factor analysis of the item scores appears to be the most often used" (p. 40). In the present study factor analysis was used to determine the construct validity of the questionnaire.

External validity, as Gold (1984) states, is concerned with "the degree of generalizability of the results of the

study. Thus external validity is concerned with the question of inference or generalization which is the process of moving from the specific to the more general" (p. 153). The focus of the present study was primarily concerned with exploring a procedure--children's self-repc t--that might be useful in examining aspects of stress, coping, and leisure time in children. As a by-product, the study collected information that could assist counsellors in determining strengths as well as areas for needs in any counselling or programming efforts, should they wish to use it. Nevertheless, this was not the primary intent of the study. The focus of the study was formative; therefore, the issue of generalizability can only be considered in light of the purpose of the study. Questions concerning the ability of the procedures to gather information about certain aspects of everyday stress, coping strategies, and leisure time activities of elementary school age children would be legitimate. Due to the purpose, the nature, and methodology of the study and since only certain aspects of peer and school related indicators were studied, it would be difficult and inappropriate to arrive at summative statements concerning the effects of said indicators. The users of the general procedures and instrument must determine whether the sample and circumstances are similar enough to warrant their use.

Objectivity.

Bias, conscious and unconscious prejudice, incompetence, gullibility, and corruptibility are problems of objectivity in research data collection noted in the literature (Giles, 1987).

In the self-report format of the instrument the goal was to index cross-sectional cognitive . behavioral categories of stress and coping. In order to obtain information on the generality and antecedents of the student's concerns it was necessary to describe individual concerns that were school, peer and self-related. This conceptualization would allow a broad and comprehensive examination of the stress and coping related factors and provide a more representative sample. In this study the focus was on school and peer related attributes in the areas of: (a) intrapersonal (health and attitudinal); (b) interpersonal; (c) time management; (d) locus of control; (e) coping; and (f) extracurricular activities - interest and participation.

Potential problems with the self-report format were considered. For example, the students may have been unskilled at the task of self-analysis, as well as being unmotivated. Also, the student's reading ability could affect item comprehension, responses, and analysis. To counteract such concerns, the directions for each section of the questionnaire were both visually and orally presented, with two examples illustrating the differences in the Likert-type Scale of four

(often like me) and two (seldom like me) presented to the students, thereby taking advantage of any child's higher oral than reading comprehension. There is often smaller variability with this age group between oral comprehension and reading comprehension (Philips, 1978). The oral presentation of the directions of each section would allow greater control over response rate and student comprehension of the four general sections of the instrument, thereby facilitating the reliability of the data obtained.

A strength of the self-report format is its efficiency. The self-report format of the questionnaire enables the researchers to obtain data on the overt and covert behaviors of the student, as well as information on their subjective evaluation of these behaviors. This format was economical in cost, effort, and time, as well as providing data that can be easily quantified.

The respondents were assured of anonymity, instructions in each section of the questionnaire were clearly written, and the content of items was related to the personal perceptions of the school children. The children did not have to seek information from external sources to complete the questionnaires' items.

Research Methodology

Data were collected in three urban schools in St. John's, Newfoundland. Dr. Art Sullivan, professor with the Psychology Department of Memorial University, conferred by telephone with the Superintendent of Education in the district on the subject of the proposed research in the areas of childhood stress, coping, and leisure time. Permission was obtained to undertake the research and initial plans were set in motion. The investigator met the three individual school administrators to explain the nature and purposes of the study and to establish data collection procedures. Parent forms were distributed to communicate to guardians the nature of the questionnaire and to obtain written permission for their child to participate in the study (Appendix C). Additional information about the ethical procedures are presented in Appendix C. The researcher received approval from the Faculty Committee for Ethical Review of Research Involving Human Subjects (see correspondence, April 28, 1989--Appendix C).

The quantitative data were collected by the investigator between April 11 and 25, 1989 by visiting the grade five and six classes in the three schools. The sample consisted of 69 children in grades five and six in three urban schools in Newfoundland. Fifty-nine were placed in the fifth grade and 10 were from the sixth grade. There were 35 males and 34 females. The children were living in the upper mobile areas

of the city.

Data Analysis

The data analysis techniques employed reflected the type of data collected and the exploratory nature of the study. The data were analyzed by various quantitative means. Statistical techniques included factor analysis, analysis of variance, mean scores, and rankings for the factors identified. Factor analysis was performed on all sections of the questionnaire. The factor solutions were examined and highest factor loadings used to determine which items belonged in a given category. When this could not be justified on conceptual grounds, items were assigned to factors where their loadings were second highest. Items were moved to where they fitted conceptually only if the factor loading was reasonably close to .30, which had been set a priori as a minimum acceptable factor loading.

A five-factor solution was performed for the 40 items in the "Causes and Manifestations of Stress" section, resulting in factors that were explainable conceptually as well as statistically. As outlined in Table 1 of Appendix D, these factors were labelled: (a) self-concept--school related; (b) school work management concerns; (c) self-perception--interpersonal; (d) local of control--influence of others; and (e) peer-related interactions.

As for the coping strategies section, a five-factor

solution was performed. As outlined in Table 2 in Appendix D, the resulting factors were: (a) social support--information seeking; (b) direct problem solving; (c) direct action--health; (d) intrapsychic; and (e) relaxation.

The 18 extracurricular activities of Leisure Time Usage--Participation were subjected to factor analysis involving seven solutions. As outlined in Table 3 of Appendix D, these factors were labelled: (a) activities with peers; (b) computer; (c) homework; (d) practice; (e) socializing; (f) chores; and (g) community activities.

In the 18 extracurricular activities of Leisure Time Usage--Interest, a six-factor solution served best. As indicated in Table 4 of Appendix D, these factors were labelled: (a) socially desirable/acceptable; (b) social activities; (c) television; (d) games; (e) goal-oriented pursuits; and (f) video games.

Within each section of the instrument, individual factor scores and item means were computed. These means were then ranked to facilitate comparison and to guide the presentation of results. In all sections of the questionnaire, one way analysis of variance (F-test) was used to determine significant differences beyond the .05 level between gender and grade. Multivariate Tests of Significance (Pillais, Hotellings, and Wilks) were used to determine significant differences among the four scales of the instrument.

CHAPTER IV

Presentation, Analysis and Interpretation of the Data

The findings of this study are presented in this chapter, with the purpose to analyze and interpret the data gathered. The presentation of the data follows the order of the research questions presented in Chapter I and is associated with the three general questions of the study, namely: General Question 1 - What are the stressors children experience on a daily basis in and out of school? General Question 2 - What are the coping strategies of the children in the sample? General Question 3 - How do children between the ages of 10 and 12 use their leisure time?

Mean Scores and Ranked Order - Stressors of Children

This section presents the findings and discussions related to the first four research questions, namely:

1.1 What is the mean score for Student Scale 1 (Causes and Manifestations of Stress)?

1.2 What is the mean score for each of the four sub-scales of Student Scale 1: (a) Intrapersonal (health and attitudinal); (b) Interpersonal; (c) Locus of Control; and (d) Time Management?

1.3 What are the mean scores of the 10 highest rated items on Scale I?

1.4 What are the mean scores of the three highest rated in each of the four sub-scales of Scale 1?

As shown in Table 4.1, the overall mean score in Scale I was 105.12 (with a potential range of 40-200). The item mean for all 40 items on Scale I was 2.63 (with a potential range of 1-5). Thus, the stressors under study were rated, on the average, to be "seldom to sometimes like me," according to the respondents. In addition, there were no significant differences between any of the four sub-scales of Scale I, with the item means ranging from 2.54 to 2.59 and the overall sub-scale mean scores ranging from 25.38 to 25.86 (with a potential range of 10-50). Time Management was the highest rated of the sub-scales. Locus of Control had the narrowest of the range of responses of the sub-scales in Scale I, with the Intrapersonal sub-scale showing the greatest response variation. Previous studies by Klas, Woodward and Kennedy (1985) and Klas, Kennedy and Woodward (1984) on stress in teachers in Newfoundland and Labrador also reported Time Management to be most stressful.

Table 4.2 presents the mean and rank order of the 10 highest rated items for "Causes and Manifestations of Stress" (Student Scale I). The item ranked number one was "I worry about the health of my family or friends." This item is from the Intrapersonal sub-scale. The remaining items consisted of items related to Intrapersonal (one item), Interpersonal (four items), Time Management (two items), and Locus of Control (two

items).

Table 4.1

Means, Item Means, and Range of the Four Student Scales and Four Sub-Scales of Scale I

Four Student Scales	Four Sub-Scales of Scale I	Overall Scale Means	No. of Items in Scale	Item Mean for Scale	Size of Range of Responses to Items
I Causes and Manifestations of Stress		105.12*	40	2.63	1.94*
	Intrapersonal	25.53*	10	2.55	1.81*
	Interpersonal	25.56*	10	2.56	1.20*
	Time Management	25.86*	10	2.59	1.30*
	Locus of Control	25.38*	10	2.54	0.98*
II Coping		63.18*	23	2.75	2.18*
III Leisure Time Usage - Participation		49.90**	18	2.78	1.16**
IV Leisure Time Usage - Interest		38.57***	18	2.14	0.80***

*Means for items were calculated on the basis of the following response scale:

1 = Not like me
2 = Seldom like me
3 = Sometimes like me
4 = Often like me
5 = Always like me

**Means for items were calculated on the basis of the following response scale:

1 = Seldom
2 = Once a month
3 = Once a week
4 = Almost every day

***Means for items were calculated on the basis of the following response scale:

1 = No interest
2 = A little interest
3 = A lot of interest

Table 4.2

Rank Order, Mean, and Standard Deviation of the Ten Highest Ranked Items for "Causes and Manifestations of Stress" (Student Scale I)

Rank Order	Item	Mean*	Std. Dev.
1	I worry about the health of my family or friends.	3.59	1.24
2	I am in many activities in school.	3.42	1.24
3	I feel that people expect too much of me.	3.16	1.31
4	I feel different from others.	3.14	1.03
5	I feel my ideas are not taken seriously.	3.10	1.21
6	I have no idea of what the future holds for me.	3.07	1.39
7	I think that people are fair to me.	2.98	1.37
8	I am too sensitive to what others say.	2.90	1.29
9	I waste time at home.	2.86	1.56
10	I worry about my health.	2.86	1.36

*Means for items were calculated on the basis of the following response scale:

1 = Not like me

2 = Seldom like me

3 = Sometimes like me

4 = Often like me

5 = Always like me

Table 4.3

Rank Order, Mean, Standard Deviation, and Average Mean of the Three Highest Rated Items for Each Sub-Scale of Scale I "Causes and Manifestations of Stress"

Sub-Scale	Rank Order	Item	Mean*	Std. Dev.	Average Mean of Sub-Scale Items
Intrapersonal					2.55
	1	I worry about the health of my family or friends.	3.59	1.24	
	2	I worry about my health.	2.86	1.36	
	3	I find my subjects in school are boring.	2.78	1.20	
Interpersonal					2.56
	1	I feel that people expect too much of me.	3.16	1.31	
	2	I feel different from others.	3.14	1.03	
	3	I think that people are fair to me.	2.98	1.37	
Time Management					2.59
	1	I am in many activities in school.	3.42	1.24	
	2	I waste time at home.	2.86	1.56	
	3	I have too many hobbies and interests that take up my time.	2.81	1.15	
Locus of Control					2.54
	1	I feel my ideas are not taken seriously.	3.10	1.21	
	2	I have no idea of what the future holds for me.	3.07	1.39	
	3	I feel that I can control what happens to me.	2.78	1.31	

*Means for items were calculated on the basis of the following response scale:

1 = Not like me
2 = Seldom like me
3 = Sometimes like me
4 = Often like me
5 = Always like me

Table 4.3 presents the mean and rank order of the three highest rated items for the four sub-scales of "Causes and Manifestations of Stress" (Student Scale I). A comparison of the information in Tables 4.2 and 4.3 provides a basis for evaluating the most significant stressors of the children in the study.

The item ranked first in the Intrapersonal sub-scale (Table 4.3) was "I worry about the health of my family or friends." The mean score for this item was 3.59, as compared to the average Intrapersonal item mean 2.55, on a five-point Likert-type scale. As already noted, this is an often-cited source of stress among children. In Johns and Johns (1983) the anxieties and fears of the children were found to be just as stress-provoking and threatening as those of adults. The second ranked item was "I worry about my health." Crowley (1981) found that one-half of the children studied were worried about the health of their family member or themselves. Physical injury and loss--injuries from the playground, lunch lines, physical education classes, thefts, environmental disasters, and fights--are stressors for elementary and junior high students (Paterno, 1987). Paterno collected the self-reported data in a laboratory school setting. The primary students were individually interviewed while the middle school students responded to the same questions in a written format during a classroom session. Aggressive behaviors from other students were cited as childhood stressors by Blom et al.

(1986). While boredom with school subjects ranked third in this sub-scale, it did not rank in the highest 10 for the entire Student Scale I.

In the sub-scale for the Interpersonal category, "I feel that people expect too much of me" was ranked first, with an item mean of 3.16 as compared to the average mean 2.56 (Table 4.3). Expectations of others as a stressor ranked third of the highest 10 items of Scale I (Table 4.2). Other writers (Elkind, 1981; Gibbs, 1989; Ivany, 1989) discussed the implications of rising expectations of parents and society for children to "measure up" to specific standards and changing demands of our time. In their study, Blom et al. (1986) described academic pressure and excessive competition to be sources of stress for children in school. "I feel different from others" was ranked second for this sub-scale. This item ranked fourth of the highest 10 items. Peer relationships was a stressor for primary and elementary students (D'Aurora & Fimian, 1988; Dickey & Henderson, 1989; Omizo et al., 1988; Paterno, 1987). Omizo et al. also described elementary children being under stress due to feeling different from or inferior to others. The third ranked item for the Interpersonal sub-scale was "I think people are fair to me." This item ranked seventh in the highest 10 of the 40 items in "Causes and Manifestations of Stress." One could postulate that this may be indicative of the push-and-pull children experience in attempting to please the significant adults in

their lives. The eighth ranked item of Table 4.2 was from the Interpersonal sub-scale as well. In fact, 4 of the 10 items from this sub-scale were among the 10 highest rated items for all of Scale I (see Table 4.2). This may reflect that at least some aspects of the respondents' interpersonal lives are reasonably stressful, when compared to other categories of stressors.

"I am in many activities in school" was the highest ranking item for the Time Management sub-scale. The item mean was 3.42, while the average sub-scale item mean was 2.59. The second ranking item was "I waste time at home." These two items ranked second and ninth, respectively, in the highest 10 of the entire pool of 40 items. "I have too many hobbies and interests that take up my time" ranked third for this sub-scale, but this item did no rank in the highest 10 items of Scale I. Lack of leisure time and loss of personal space, comfort, and time are relevant Time Management sources of stress for primary and elementary students (Dickey & Henderson, 1989; Elkind, 1986; Paterno, 1987).

The items of "I feel my ideas are not taken seriously" and "I have no idea of what the future holds for me" were the first and second ranked items of the Locus of Control sub-scale. The item means were 3.10 and 3.07, respectively, as compared to the sub-scale item mean 2.54. These two items were also ranked fifth and sixth, respectively, in Table 4.2. Externalized Local of Control and the perception of not

feeling in control are components that contribute to student stress and burnout (Grannis, 1987; Fimian & Cross, 1986; Omizo et al., 1988).

Biographical Variables - Stressors of Children

This section presents the findings and discussions related to the last two research questions of General Question 1, namely:

1.5 What are the mean scores for gender and grade in Scale I?

1.6 Is there a significant difference between the mean scores for gender and grade In Scale I?

Table 4.4 shows the relationship between mean scores as categorized by the biographical variables of gender and grade. Notably, the distribution of the sample population was greater at the fifth grade level, thereby affecting the analysis of the grade effect. There were no significant differences between the item means for the variables of Scale I, with the item means ranging from 2.57 to 2.60 and the overall Scale I mean scores ranging from 102.88 to 104.16 (with a potential range of 40-200).

Product measures were analyzed in a 2 Factor (Grade x Gender) multivariate analysis of variance (MANOVA) with four dependent variables: Causes and Manifestations of Stress (Scale I); Coping (Scale II); Leisure Time Usage--Participa-

tion (Scale III); and Leisure Time Usage--Interest (Scale IV). An examination of the analysis of variance findings for gender and grade found no significant differences between the groups for "Causes and Manifestations of Stress" (Table 4.5).

Table 4.4

Mean Scores for Scale I "Causes and Manifestations of Stress" by Biographical Variables

Biographical Variables	N	Scale Mean for Variable	Item Mean for Variable	Standard Deviation
Grade Five	59	103.76	2.59	1.16
Male	31	103.36	2.58	1.51
Female	28	104.16	2.60	.84
Grade Six	10	103.28	2.58	1.19
Male	4	102.88	2.57	.97
Female	6	103.64	2.59	1.35
Males	35	103.28	2.58	1.45
Females	34	104.16	2.60	1.09

Table 4.5

Comparison of Biographical Variables on Dependent Measures: Scales I - IV

Multivariate Test (Wilk's Lambda)

Factor	Approx. F	DF	Error df	p
Grade	.766	4	62	.551
Gender	5.244	4	62	.001
Interaction (Grade X Gender)	.400	4	62	.808

Univariate Tests for Gender (1,65)

Dependent Measure	Sum of Squares	Error SS	F	p
Scale I	2.197	294.114	.486	.488
Scale II	.278	358.424	.050	.823
Scale III	5.385	280.771	1.247	.268
Scale IV	33.435	290.704	7.476	.008

Univariate Tests for Grade (1,65)

Dependent Measure	Sum of Squares	Error SS	F	p
Scale I	3.237	294.114	.715	.401
Scale II	.082	358.424	.015	.904
Scale III	7.55	380.771	1.795	.185
Scale IV	2.910	290.704	.651	.423

(table continued)

Univariate Tests for Interaction (1,65)

Dependent Measure	Sum of Squares	Error SS	F	p
Scale I	.981	294.114	.217	.643
Scale II	1.275	358.424	.231	.632
Scale III	.000	280.771	.000	.988
Scale IV	2.842	290.704	.636	.428

Mean Scores and Ranked Order - Children's Coping Strategies

This section presents the findings and discussions related to the first two research questions of General Question 2, namely:

2.1 What is the mean score for Scale II (Coping)?

2.2 What are the mean scores of the 10 highest rated items in Scale II?

As shown in Table 4.1, the overall mean for Scale II was 63.18 (with a potential range of 23 to 115). The item mean of all 23 items in Scale II was 2.75 (with a potential range of 1-5). Thus, the coping strategies were rated as between "seldom like me" to "sometimes like me" by the respondents. There was no significant difference observed between the

"Causes and Manifestations of Stress" and "Coping" scales in terms of either the average mean or the range of items on the five-point scale.

Table 4.6 presents the means and rank order of the 10 highest rated items for "Coping" (Student Scale II). The item ranked first was "I complain when things don't go right." The mean score for this item was 3.18, as compared to the average item mean of 2.75 (Table 4.1), on a five point Likert-type scale. The standard deviation of 1.36 for this item indicates that the majority of responses were between "often like me" and "seldom like me." There was no significant difference observed between the 10 means of the 10 highest coping items.

The item ranked number two was "I am willing to discuss what happens to me with someone," with a mean score of 3.02 and standard deviation of 1.36. Band and Weisz (1988) described the child's efforts to buffer stress by telling a parent or friend about the problem, in the hope of gaining encouragement and support. Children's attempts to modify or influence the subjective, psychological impact, rather than changing the actual event, were found to increase with age, especially in the medical scenarios. In Band and Weisz's study an interview procedure was used to collect the data; therefore, the reliance of the self-report would have been affected by the reliability of the interview data. The researchers examined behaviors which were internal, involving cognitive-psychological processes that were not exhibited for

direct observations.

Table 4.6

Rank Order, Mean, and Standard Deviation of the Ten Highest Ranked Items for "Coping" (Student Scale II)

Rank Order	Item	Mean*	Std. Dev.
1	I complain when things don't go right.	3.18	1.36
2	I am willing to discuss what happens to me with someone.	3.02	1.36
3	I over-react when I get nervous.	2.93	1.34
4	I can talk to others about how I feel.	2.93	1.29
5	I pretend that I don't have any problems, even when I really do.	2.92	1.36
6	I eat a well-balanced diet.	2.91	1.20
7	I can accept change by taking one step at a time.	2.77	1.14
8	I am good at thinking out solutions for my problems.	2.74	1.14
9	I can control my feelings.	2.65	1.20
10	I get plenty of sleep.	2.54	1.27

*Means for items were calculated on the basis of the following response scale:

1 = Not like me
2 = Seldom like me
3 = Sometimes like me
4 = Often like me
5 = Always like me

The third ranking item of "I over-react when I get nervous" may indicate that the children's overt behaviors can be a coping mechanism to signal that they may not understand or cannot deal with the present situation. Paterno (1987) described Folkman's (1986) examination of the literature on the topic of children's coping strategies as being "emotional-focused." "Impulsive Acting Out" was an evasive coping strategy that children may use to focus attention on to them as a means of temporarily easing their feelings of stress (Anderson & Fulton, 1987). Physical or verbal aggression to release pent up feelings or emotion-focused aggression was described as one of the secondary coping strategies by Band and Weisz (1988).

The coping item ranked fourth was "I can talk to others about how I feel" with a mean score of 2.93 and a standard deviation of 1.29. In the preliminary research of the Paterno (1987) study, the coping strategy of expressing one's feelings was described. However, a noteworthy discrepancy was demonstrated in her actual study. The coping strategy of catharsis, "physical or verbal expression of intense emotion" (p. 9) was found to be among the lowest reported coping strategies for primary students. The level of the children's cognitive maturity may play a decisive role, because a significant increase in mean frequency was observed with the middle school students in the same study.

The second and fourth rankings were similar, in that both

dealt with the concept of social support. One may surmise that the other two items of complaining and over-reacting are behaviors exhibited by children for a similar purpose. These overt responses may be communicating a need for support and information to enable children to understand and cope with the stress they are experiencing. The four highest ranking coping items were grouped together to provide the following comparison of children's coping strategies in the research literature.

Reed and Carlson (1987) noted that families which coped successfully with changes and stress tended to encourage the members to discuss any topic or express any feeling with each other. This allows the individual to be listened to and accepted. The support network for the family members was the family unit as a whole. This might suggest that the classroom environment could complement the family structure, due to the fact that children do not usually cope with change and stress in isolation. Teachers, as well as parents, can provide effective direction and guidance in their respective support networks.

The Wertlieb, Weigel and Feldstein (1987) study reported that family social support (such as the availability and use of people and resources) was a part of the child's coping process and had a strong inverse relationship to behavior symptomatology. The methodology of this research began with a stratified random sample. Data were obtained during home

visits through a child self-report checklist, and three measures of mother-rated responses. However, the researchers' definitions of daily hassles and social support relied solely on the mother's reports of her and the family.

Paterno (1987) found that primary and middle school students reported social support through seeking physical and/or verbal comfort from family, teachers, or peers. Paterno also cited McCrae's (1984) coping approach of "expression of feeling" in the preliminary research of the study.

Berg (1989) classified the child's overt behaviors to gather additional information through the advice of others as "seeking more information" to facilitate future problem-solving. It was noted that seeking more information was among the strategies perceived to be more effective outside the school setting. The time of the children's rating affected the results, in that this strategy was rated slightly higher during the second time of rating.

According to Dubow and Ullman (1989), the child's self-report may well be the best index of whether social support mediates the relationship between stress and adjustment. This conclusion was due to indications that adults' perceptions of a child's support may not correlate well with the child's perception. This premise led to the development of the Survey of Children's Social Support (SOCSS) by the authors. Dubow and Ullman found that elementary school children could distinguish between family, peer, and teacher support but

could not discriminate between emotional and informational support. The children did not separate friend and classmate support. In this study, children who reported to be receiving more supportive behaviors were more satisfied with their support networks. There were grade and gender differences noted in the children's network size. In an open-ended measure, older students and females listed more members in their support networks.

Dubow and Tisak (1989) found, through correlational analysis, that providing a child with strong social support and problem-solving skills decreased the negative ratings on teacher-rated behavior scales. The data were collected during three classroom sessions. The measures included two paper-and-pencil children's self-report questionnaires, three parent-rating instruments, one teacher-rating scale, and the calculation of grade point average.

Wertlieb et al. (1987), in a correlational study, found gender differences in the use of social support. Females more actively sought support from other people. The emotion-management and intrapsychic coping approaches were reported by older students. As with the results of Band and Weisz (1988) and Paterno (1987), the child's level of maturity and subsequent cognitive development were related to the means used to cope with the psychological impact of stress. One of the limitations of this research was that the results were based on children's responses only, not on parent, teacher, or

clinicians' formulations.

In examining social support, Altshuler and Ruble (1989) found that children reported affective support to a greater extent than informational support. Children's use of informational and peer support increased with age. The methodology procedures entailed interviews and intellectual assessment.

The fifth ranking coping item was "I pretend that I don't have any problems, even when I really do" with a mean score of 2.92 and a standard deviation of 1.36. A child's efforts to avoid thinking about a stressful situation was described by Band and Weisz (1988) in their concept of "cognitive avoidance." Paterno (1987) reported a significant increase in the coping strategy of "distraction" by middle school students. "Denial" may be an evasive coping approach used by the child when pretending that stress does not exist, fantasizing, or daydreaming, and helps the individual reduce the pain and possibly preserve equilibrium (Anderson & Fulton, 1987). According to Altshuler and Ruble (1989) cognitive distraction increased with age, whereas escape decreased with age. These studies demonstrate the role of maturity and cognitive development as a child relies on either mental or behavioral coping alternatives.

The item ranked number seven was "I can accept change by taking one step at a time," with a mean score of 2.77 and a standard deviation of 1.14. According to Berg (1989), students reported the strategy of adapting to the problem as

the most effective coping strategy. This strategy involved the child's self-initiated action that would make the behavior conform with the demands of the situation. The interaction among the problem situation, strategy, and gender indicated that differences in the perceived effectiveness of "adapting to the problem" across problems differed by gender. Males perceived this strategy to be more effective when running against a friend for a Student Council seat, whereas females reported it to be more effective for dealing with damaging something borrowed. The perceived effectiveness of this coping strategy was affected by the setting, time of rating, and the specific problem situation.

The eighth ranking item was "I am good at thinking out solutions for my problems," with a mean score of 2.74 and a standard deviation of 1.14. Anticipation is one of the coping approaches children devise to deal with stressful problems (Vaillant, 1977, cited in Anderson & Fulton, 1987). This allows children to use prior knowledge to foresee what may occur. According to Vaillant, children can plan how they can protect themselves by trying to accept what they cannot change. "Problem-solving skills" were listed as one of the eight characteristics possessed by agricultural families who cope well with the stresses associated with change (Reed & Carlson, 1987). These families handled and resolved problems as they occurred, so as not to add to the stress of their daily lives. "Plan to take action" was a coping strategy for

dealing with everyday problems used in the study by Berg (1989). According to Berg, this approach involved the student initiating steps that would lead to a problem's solution or would enable the student to avoid being faced with the specific problem in the future. This coping strategy was reported to be perceived as the second most effective option for fifth, eighth, and eleventh graders.

The ninth ranking coping item was "I can control my feelings," with a mean score of 2.65 and a standard deviation of 1.20. Wertlieb et al. (1987) discussed the function of Emotion-Management coping behaviors as "to manage somatic, subjective, and affective components of stress-related experiences" (p. 552). Self-focused coping was more often reported by females to be associated with Emotion-Management; a greater proportion of Emotion-Management was also reported by older students. Females also exhibited more reliance on Emotion-Management among the older students. Suppression was one of the five methods children devised to face and handle stressful events (Vaillant, 1977, cited in Anderson & Fulton, 1987). This strategy can provide a temporary reprieve from the problem, allowing the student time to gather strength on a short-term basis.

The sixth and tenth ranking coping items involved nutrition and sleep as basic coping approaches. Rest and diet were often cited coping strategies in the research literature on stress management (Greenberg, 1987; Johns & Johns, 1983;

Schafer, 1987).

Biographical Variables - Coping Strategies

The findings related to the following two research questions of General Question 2 are presented in this section.

2.3 What are the mean scores for gender and grade in Scale II?

2.4 Is there a significant difference between the mean scores for gender and grade in Scale II?
are presented in this section.

The relationship between mean scores as categorized by gender and grade is presented in Table 4.7. There were no significant differences between the item means for variables of Scale II, with the item means ranging from 2.68 to 2.73 and the overall Scale II mean scores ranging from 61.66 to 62.81 (with a potential range of 23-115). No two groups were observed to be different at the .05 level of significance with respect to male, female, grade five, or grade six (see also Table 4.5). These results are in contrast to Wertlieb et al. (1987).

Table 4.7

Mean Scores for Scale II "Coping" as Measured by Biographical Variables

Biographical Variables	N	Scale Mean for Variable	Item Mean for Variable	Standard Deviation
Grade Five	59	62.12	2.70	1.98
Male	31	62.58	2.72	1.84
Female	28	61.66	2.68	2.12
Grade Six	10	62.56	2.72	1.85
Male	4	62.43	2.71	1.68
Female	6	62.81	2.73	2.01
Males	35	62.56	2.72	1.76
Females	34	61.82	2.69	2.06

Children's Leisure Time Usage

This section presents the findings and discussions related to the six research questions of General Question 3, namely:

3.1 What is the mean score for Scale III (Leisure Time Usage--Participation)?

3.2 What is the mean score for Scale IV (Leisure Time

Usage--Interest)?

3.3 What are the mean scores of the 10 highest rated items in Scales III and IV?

3.4 How are the children's participation and interest levels in extracurricular activities related?

3.5 What are the mean scores for gender and grade in Scales III and IV?

3.6 Is there a significant difference between the mean scores for gender and grade in Scales III and IV?

As shown in Table 4.1, the overall mean for Scale III (Leisure Time Usage--Participation) was 49.90 (with a potential range of 18-72). The item mean for all 18 items on Scale III was 2.78 (with a potential range of 1-4). Thus, the average participation item was rated somewhere between "once a month" and "once a week." As shown in Table 4.1, the overall mean for Scale IV (Leisure Time Usage--Interest) was 38.57 (with a potential range of 18-54). The item mean for all 18 items on Scale IV was 2.14 (with a potential range of 1-3). Thus, the average interest in leisure time activities was between "a little interest" and "a lot of interest."

Table 4.8 presents the means and rank order of the 10 highest rated items for "Leisure Time Usage--Participation" (Scale III). The item ranked number one was "watching television." The mean score for this item was 3.97, as compared to the overall item mean of 2.78 (Table 4.1), on a four-point Likert-type scale. There was no significant

Table 4.8

Rank Order, Mean, and Standard Deviation of the Ten Highest Ranked Items for "Leisure Time Usage - Participation" (Student Scale III)

Rank Order	Item	Mean*	Std. Dev.
1	Watching television.	3.97	1.01
2	Church and church groups.	3.90	0.45
3	Going to the arcade.	3.80	0.67
4	Homework.	3.72	0.64
5	Talking on the telephone.	3.55	0.93
6	Reading for fun (books, magazines).	3.39	0.97
7	Playing sports with friends (not organized.)	3.11	1.07
8	Shopping.	2.76	0.92
9	Cleaning my room, clothes, the house.	2.68	1.08
10	Organized sports (team or individual competition).	2.65	1.19

*Means for items were calculated on the basis of the following response scale:

1 = Seldom

2 = Once a month

3 = Once a week

4 = Almost every day

difference observed between the 10 means of the 10 highest Participation items. Garton and Pratt (1987) categorized watching television in five factors: Feminine--watch TV soap operas; Sex and friendship--watch TV popular shows; Sport--watch TV sports; Screen activities--watch TV comedies or films; and Intellectual TV--news, quiz shows. or dramas for both the participation and interest scales. The questionnaire contained 77 items, as compared to 18 in the present study. York, Vandercook and Stave (1990) found that watching television was one of the favorite home activities of seventh graders.

Church, homework, phone conversations, and chores ranked second, fourth, fifth, and ninth, respectively on Scale III; these factors were not examined by either Garton and Pratt (1987) or York et al. (1990). The third ranking participation item of "Going to the arcade" was cited as favorites in the areas of screen-related pursuits (Garton & Pratt, 1987) and electronic equipment (York et al., 1990). Recreational reading was the sixth ranking item. According to York et al. (1990), reading was a favorite independent activity for 36% of the seventh grade respondents. Garton and Pratt (1987) categorized "read serious books and read light novels" under the factor labelled "Studious." The seventh ranking participation item was "Playing sports with friends (not organized)" while "Organized sports (team or individual competition)" ranked tenth. Garton and Pratt (1987) studied unorganized

sport and team sport under the factor "Sport." According to the York et al. (1990) findings, the favorite community activities were sports. York et al. (1990) found that shopping, ranked eighth in the present study, was one of the favorite activities to do with friends. Garton and Pratt (1987) found this item loaded under the factor "Feminine."

Table 4.9 presents the means and rank order of the 10 highest rated items for "Leisure Time Usage--Interest" (Student Scale IV). The item ranked number one was "Hanging out with friends (at home or outside)." The mean score for this item was 2.81, as compared to the overall item of 2.14 (Table 4.1), on the three-point Likert scale. There was no significant difference observed between the 10 means of the 10 highest Interest items. Garton and Pratt (1987) studied activities corresponding to this item, namely their factors of Sex and friendship as well as Feminine, Screen activities, Light entertainment, and Home. This item was not among the highest rated items on the Participation scale (Scale III); this can be seen as a significant discrepancy, underlining the influence of peer relationships on preadolescents, that increases through adolescence. The second ranked item was "Watching television." This was the first ranked participation item, demonstrating that the children's interest corresponded to their actual participation in the activity. The following interest items of talking on the telephone, reading for fun (books, magazines), and shopping are well matched to

Table 4.9

Rank Order, Mean, and Standard Deviation of the Ten Highest Ranked Items for "Leisure Time Usage - Interest" (Student Scale IV)

Rank Order	Item	Mean*	Std. Dev.
1	Hanging out with friends (at home or outside).	2.81	0.41
2	Watching television.	2.68	0.51
3	Playing sports with friends (not organized).	2.62	0.62
4	Talking on the telephone.	2.51	0.66
5	Reading for fun (books, magazines).	2.44	0.69
6	Shopping.	2.40	0.72
7	Organized sports (team or individual competition).	2.35	0.75
8	Work for pay.	2.32	0.72
9	Playing on home computer.	2.11	0.82
10	Music lessons and practice.	2.06	0.83

*Means for items were calculated on the basis of the following response scale:

1 = No interest

2 = A little interest

3 = A lot of interest

the children's participation as well. The item ranked number three on the interest scale was "Playing sports with friends

(not organized)," while competitive sports ranked number seven. The corresponding rankings on the Participation scale was seventh and tenth, respectively, thereby demonstrating a similarity between the respondents' interest and actual participation in sporting activities. The final items of work for pay, playing on home computer, and music lessons and practice, on the Interest scale, did not rank among the highest participation items. Given the developmental level of 10-to-12 year olds and the upper mobility of the present sample, these rankings may be a reflection of future interest and aspirations relevant to both family and societal expectations. The participation items of church and church groups, going to the arcade, homework, and cleaning my room, clothes, the house, were not among the highest ranked interest items. One may postulate these discrepancies being due to the children's desire to exhibit socially desirable interests, with the actual activities they participate in being influenced by the peer group, school system, or parental expectations.

Biographical Variables - Leisure Time

The relationship between the mean scores as categorized by the biographical variables of gender and grade are presented in Table 4.10 (Participation) and Table 4.11 (Interest).

Table 4.10

Mean Scores for Scale III "Leisure Time Usage - Participation" as Measured by Biographical Variables

Biographical Variables	N	Scale Mean for Variable	Item Mean for Variable	Standard Deviation
Grade Five	59	51.10	2.84	1.02
Male	31	52.38	2.91	1.09
Female	28	49.68	2.76	.95
Grade Six	10	52.38	2.91	1.40
Male	4	54.72	3.04	1.34
Female	6	51.84	2.88	1.47
Males	35	52.65	2.92	1.22
Females	34	50.06	2.72	1.21

Table 4.11

Mean Scores for Scale IV "Leisure time Usage--Interest" as Measured by Biographical Variables

Biographical Variables	N	Scale Mean for Variable	Item Mean for Variable	Standard Deviation
Grade Five	59	40.38	2.24	1.19
Male	31	33.12	1.84	.81
Female	28	48.42	2.69	1.57
Grade Six	10	38.81	2.16	1.24
Male	4	31.68	1.76	.75
Female	6	43.56	2.42	1.73
Males	35	32.96	1.83	.78
Females	34	47.56	2.64	1.65

The Leisure Time--Participation and Interest items (Scales III and IV) were subjected to a number of tests. Significant differences, beyond the .05 level, between the extracurricular activities and gender were determined by one-way analysis. Gender was significant in the Interest scale, $F(1,65) = 7.476$, $P < .008$. The biographical variable, male, revealed a significant difference at the .008 level of confidence, demonstrating the mean for females > mean for males in the Interest Scale. No grade groups were significantly different, at the .05 level of significance, with respect to the Participation and Interest items (Table 4.5).

CHAPTER V

Summary, Conclusions and Recommendations

Summary

The study was designed to: (a) investigate the sources of childhood stress; (b) examine children's coping strategies; (c) examine their interest and participation in selected leisure time activities; and (d) examine the differences in stress, coping, and leisure time according to the biographical variables of grade and gender.

A self-report instrument was developed to determine specific characteristics of stress, coping, and children's extracurricular activities. To this end, the review of the research literature ascertained the appropriateness of the children's self-report to the descriptive nature of the present study. The literature was then reviewed with a definitive focus upon childhood stress in terms of the common stressors and their effects, stress symptoms, school-related stress, children's coping strategies and social support, and children's use of leisure time.

Quantitative data were collected through the administration of a questionnaire to 69 fifth and sixth graders in three urban schools. A pilot study of the instrument had provided information about the administration procedures and questionnaire items. Studies of reliability, validity (content, construct, and external) and objectivity were undertaken. The

instrument was considered to have acceptable internal reliability, with Cronbach Alpha ranging from 0.83 to 0.52. Construct and content validity were also deemed to be appropriate for the nature of the study.

Conclusions

1. The overall mean score on Scale I was 105.12, reflecting that the stressors under study were "seldom to sometimes" true of the respondents.

2. In Causes and Manifestations of Stress (Student Scale I), the sub-scales of Time Management, Interpersonal, Intrapersonal, and Locus of Control, in that order, were perceived as being most stressful. There were no significant differences between the sub-scales. Time Management was the highest rated sub-scale.

3. Analysis of the ranked order of the most stressful items, in terms of the entire item pool and the four sub-scales of Student Scale I, revealed that the children reported the following stressors as being most true of them: health of self and others; sense of belonging/inferiority; too high expectations; procrastination; poor organization of time; insufficient leisure time; inadequate perception of how to handle different situations; uncertainty of the future; unsure perception of how others respond to them; and repetitive school work. Thus, children most commonly reported concerns

about health, defining their own individuality from interpersonal pressures, developing a degree of competence, and finding out where they fit within the larger school and social context. In fact, it should be especially noted that 4 of the 10 items from the Interpersonal sub-scale were among the 10 highest rated items for all of Student Scale I.

4. Analysis of the rank order of the coping items of Student Scale II revealed that the following coping strategies were used most often by the children: complaining; talking to someone about the event; over-reaction; talking to someone about feelings; ignoring; eating well; accepting change; problem-solving; self-control of feelings; and sleeping well. Generally, the children attempt to find ways to make themselves feel better without hurting either themselves or other people, with some attempt to control what happens to them.

5. Analysis of the ranked order of the leisure time of children in terms of participation and interest in extracurricular activities revealed:

Participation	Interest
watching television	hanging out
church activities	television
arcade	sports with friends
home work	telephone
telephone	recreational reading
recreational reading	shopping
sports with friends	organized sports

shopping	work for pay
chores	computer
organized sports	music lessons

Friendship activities, independent interests, screen-related pursuits, studying, and home responsibilities were the primary areas of children's participation. In contrast, children's interest in leisure time could be generally categorized into friendship activities, screen-related pursuits and sports. It may be concluded that socializing was an important component for both the Participation and Interest scales (Scales III and IV). This demonstrates the significance of peer influence and relationships to the preadolescent, not overriding the importance of family and societal expectations, but underscoring the preadolescent's need to belong to a relevant peer group.

6. The analysis revealed that a significant difference existed between gender and the interest in extracurricular activities. Females reported a higher level of interest in leisure time pursuits than males. Statistically significant differences did not exist between the biographical variables of gender and grade and Causes and Manifestations of Stress, Coping, and Leisure Time Usage - Participation.

Recommendations

Recommendations for Future Research

This study was definitive and descriptive in nature, providing direction for further studies which might clarify some of the findings and deal with more specific concerns.

Following are some suggested areas for further research:

1. A larger sample size could provide data for analysis of different biographical variables. For example, one could conduct an analysis (a) by grade and gender, when coupled with academic achievement, (b) by grade and gender, when coupled with behavioral symptoms, and (c) by urban versus rural and/or family income and their effect on sources of stress, children's use of coping strategies, and leisure time.

2. Further study could be conducted with the aforementioned variables as to how biographical differences affect item scores.

3. It is recommended that further research be conducted to determine the usefulness of the instrument as a means of identifying issues for counselling elementary students.

4. It is recommended that further research be conducted to determine the relationship between the children's participation and interest in leisure time activities and the development of a thematic curriculum developed around their favorite activities.

5. A study could be carried out to determine the

similarities and differences in the perception of childhood stress and coping between children's self-report and parent/teacher ratings.

6. A study could be conducted to determine how teacher and/or parent stress affects children's stress.

7. A study could be aimed at parent and/or teacher coping and how it relates to children's coping strategies.

8. A study could be aimed at developing an instrument to carefully ascertain the actual degree of stress the respondent is experiencing in several categories of functioning.

9. A study could be developed to determine the level of effective coping by the respondent in such everyday school situations as bullying, teasing, not making the team, giving the wrong answer, handling someone else's anger, having no one to play with, and dealing with negative feelings.

10. A study could be carried out to determine the role self-esteem plays in childhood stress and coping.

Recommendations for Action

In examining the following recommendations for action, one should exercise caution, since this study and the others previously discussed are not conclusive in nature.

The following are suggested areas for action:

1. It is recommended that professional development activities should assist teachers to become more aware of

normal childhood stressors and the various methods of assisting children in coping with real and perceived stressful events. As significant adults in the lives of children, it is the responsibility of educators to help children see themselves positively, so that they will know how to better cope with stressful experiences.

2. Although the findings of this study do not point directly to this issue, it is recommended that schools can provide one of the most effective protective factors for children under stress: a sense of success at a meaningful task. This can be done through structuring the classroom environment, following a predictable schedule, taking a process-oriented approach to evaluation, helping students set realistic academic goals, defusing negative, unhealthy competition, and providing teacher support and understanding.

3. It is recommended that a goal of education should be to develop within the child sufficient problem-solving skills and the ability to see cause-and-effect relationships.

4. It is recommended that more structured, non-evaluative classroom discussions be instituted so as to encourage students to talk about some of their problems, understand stressors better, and think about future coping strategies.

5. It is recommended that parent education programs put more emphasis on children's needs for physical and psychological limits so that their world can become more manageable, secure, and understandable. Parents should, in turn, encour-

age children to view stressors as challenges to be met, teach accountability rather than overprotect, and demonstrate their love by giving guidelines, support, and motivation.

6. It is recommended that children's interest and participation in leisure time activities should be used as motivational strategies for the total school curriculum.

7. It is recommended that various child stress management programs be reviewed and those appropriate be considered for implementation in the school guidance programs on a district-wide perspective.

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APPENDIX A

Questionnaire (Student Scales I-IV)

(Developed by: Carolyn Mate, Glenys Wellman, and Dr. Leroy Klas)

Student Scale I

Male _____

Female _____

This is not a test and there are no right or wrong answers. The scale for rating the items is listed below. To complete this exercise, simply rate the following items by circling the number that most closely describes you **at the present time.**

Example:

I like talking on the telephone 1 2 3 4 5

Answer: "Often like me"

I watch too much television 1 2 3 4 5

Answer: "Seldom like me"

1	2	3	4	5
Not like me	Seldom like me	Sometimes like me	Often like me	Always like me

1.	I don't care about a lot of things	1	2	3	4	5
2.	I feel different from others	1	2	3	4	5
3.	I have trouble getting all my homework done	1	2	3	4	5
4.	I have no idea of what the future holds for me	1	2	3	4	5
5.	I get excited when good things happen to me	1	2	3	4	5
6.	I am too sensitive to what others say	1	2	3	4	5

1 Not like me	2 Seldom like me	3 Sometimes like me	4 Often like me	5 Always like me

7.	I don't have enough time to get everything done	1	2	3	4	5
8.	I tell other people what to do	1	2	3	4	5
9.	I cannot concentrate on my studies	1	2	3	4	5
10.	I find it easy to talk to other people	1	2	3	4	5
11.	I have too many hobbies and interests that take up my time	1	2	3	4	5
12.	I feel that my ideas a e not taken seriously	1	2	3	4	5
13.	I find it hard to go to sleep	1	2	3	4	5
14.	I do things that get me into trouble	1	2	3	4	5
15.	I need help scheduling my time	1	2	3	4	5
16.	I can't do anything about the way I am	1	2	3	4	5
17.	I find my subjects in school are boring	1	2	3	4	5
18.	I feel that people expect too much of me	1	2	3	4	5
19.	I am in many activities in school	1	2	3	4	5
20.	I let others talk me into doing things I don't want to do	1	2	3	4	5
21.	I feel sick when I think about my studies	1	2	3	4	5
22.	I get along with people	1	2	3	4	5
23.	I think my social life interferes with my studies	1	2	3	4	5
24.	I feel that I can control what happens to me	1	2	3	4	5

1 Not like me	2 Seldom like me	3 Sometimes like me	4 Often like me	5 Always like me

25.	I feel that most people are doing better in school than I am	1	2	3	4	5
26.	I get picked on in school	1	2	3	4	5
27.	I have too many distractions	1	2	3	4	5
28.	I blame others when things don't go right	1	2	3	4	5
29.	I worry about my health	1	2	3	4	5
30.	I have friends I can be with after school	1	2	3	4	5
31.	I spend time at home	1	2	3	4	5
32.	I can think for myself	1	2	3	4	5
33.	I worry about the health of my family or friends	1	2	3	4	5
34.	I compete with others in my class for marks	1	2	3	4	5
35.	I make good use of my time in school	1	2	3	4	5
36.	I worry about not being able to finish my education	1	2	3	4	5
37.	I have too many problems	1	2	3	4	5
38.	I think that people are fair to me	1	2	3	4	5
39.	I get behind in my work	1	2	3	4	5
40.	I have enough freedom	1	2	3	4	5

Student Scale II

Here are some ways children act when they are faced with problems or things that annoy them. Simply rate the following items by circling the number that most closely describes how **you act at the present time.**

1 Not like me	2 Seldom like me	3 Sometimes like me	4 Often like me	5 Always like me

1.	I can talk to others about how I feel	1	2	3	4	5
2.	I cry to feel better	1	2	3	4	5
3.	I know how to relax	1	2	3	4	5
4.	I complain when things don't go right	1	2	3	4	5
5.	I can accept change by taking things one step at a time	1	2	3	4	5
6.	I like to be by myself	1	2	3	4	5
7.	I find that a hobby or interest takes my mind off my worries	1	2	3	4	5
8.	I over-react when I feel nervous	1	2	3	4	5
9.	I am good at thinking out solutions for my problems	1	2	3	4	5
10.	I try to keep myself in good physical condition	1	2	3	4	5
11.	I think that doing nothing is a good way of solving a problem	1	2	3	4	5
12.	I eat a well-balanced diet	1	2	3	4	5
13.	I find myself sulking when things do not go my way	1	2	3	4	5

1 Not like me	2 Seldom like me	3 Sometimes like me	4 Often like me	5 Always like me

14.	I can control my feelings	1	2	3	4	5
15.	I try to find ways to make things better	1	2	3	4	5
16.	When I need support, I pray for it	1	2	3	4	5
17.	I listen to music to relax	1	2	3	4	5
18.	I get plenty of sleep	1	2	3	4	5
19.	I am willing to discuss what happens to me with someone	1	2	3	4	5
20.	I pretend that I don't have any problems, even when I really do	1	2	3	4	5
21.	I stand up for my rights	1	2	3	4	5
22.	I make good use of time	1	2	3	4	5
23.	I get regular exercise	1	2	3	4	5

Student Scale III

Here are some activities children your age do. Simply rate the following items by circling the number that most closely describes the activities **you participate in.**

1 Seldom	2 Once a Month	3 Once a Week	4 Almost Every Day

1.	Watching television	1	2	3	4
2.	Going to the arcade	1	2	3	4
3.	Hanging out with friends (at home or outside)	1	2	3	4
4.	Homework	1	2	3	4
5.	Church and church groups	1	2	3	4
6.	Scouts/Guides/Cadets	1	2	3	4
7.	Music lessons and practice	1	2	3	4
8.	Organized sports (team or individual competition)	1	2	3	4
9.	Playing sports with friends (not organized)	1	2	3	4
10.	Talking on the telephone	1	2	3	4
11.	Preparing meals	1	2	3	4
12.	Baby-sitting brothers/sisters	1	2	3	4
13.	Work for pay	1	2	3	4
14.	Cleaning my room, clothes, the house	1	2	3	4
15.	Reading for fun (books, magazines)	1	2	3	4
16.	Shopping	1	2	3	4

1 Seldom	2 Once a Month	3 Once a Week	4 Almost Every Day

17. Volunteer-School programs	1	2	3	4
18. Play on home computer	1	2	3	4

Student Scale IV

Here are some activities children your age do. Simply rate the following items by circling the number that most closely describes **your interest** in these activities.

	1 No Interest	2 A Little Interest	3 A Lot of Interest
1.	Watching television	1	2 3
2.	Cleaning my room, clothes, the house	1	2 3
3.	Reading for fun (books, magazines)	1	2 3
4.	Hanging out with friends (at home or outside)	1	2 3
5.	Church and church groups	1	2 3
6.	Playing on home computer	1	2 3
7.	Scouts/Guides/Cadets	1	2 3
8.	Volunteer-School programs	1	2 3
9.	Music lessons and practice	1	2 3
10.	Playing sports with friends (not organized)	1	2 3
11.	Homework	1	2 3
12.	Talking on the telephone	1	2 3
13.	Preparing meals	1	2 3
14.	Organized sports (team or individual competition)	1	2 3
15.	Work for pay	1	2 3
16.	Going to the arcade	1	2 3

	1 No Interest	2 A Little Interest	3 A Lot of Interest
17. Shopping			1 2 3
18. Baby-sitting brothers/sisters			1 2 3

APPENDIX B

The Four Components of "Causes and Manifestations of Stress" (Student Scale I)

Table 1

Items in the Four Components of "Causes and Manifestations of Stress" (Student Scale I)

Component	Items
(a) Intrapersonal	1, 5, 9, 13, 17, 21, 25, 29, 33, 37
(b) Interpersonal	2, 6, 10, 14, 18, 22, 26, 30, 34, 38
(c) Time Management	3, 7, 11, 15, 19, 23, 27, 31, 35, 39
(d) Locus of Control	4, 8, 12, 16, 20, 24, 28, 32, 36, 40

APPENDIX C

Ethical Procedures and Parent Permission Form

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Psychology
Faculty of Education

Telex: 016-4101
Tel.: (709) 737-8611

March 7, 1989

TO: Dr. Glenn Sheppard
Chairman, Faculty of Education Ethics Committee

FROM: Dr. L. Klas, Ms. Carolyn Mate, Ms. Glenys Wellman

SUBJECT: Ethical procedure for thesis research of Ms. Carolyn Mate & Ms. Glenys Wellman (L. Klas, Supervisor)

Attached is a point form outline of the ethical procedures for the thesis research being developed by Ms. Mate and Ms. Wellman, and coordinated and supervised by Dr. L. Klas, Professor, Department of Educational Psychology. In addition we have attached a copy of the parent permission form.

The research project studies stress in children in elementary and middle school years. Manifestations of stress, coping strategies, time usage and selected biographical variables are being investigated and compared.

We feel that the procedures being used in the project satisfy the ethical expectancies of human subject research and we would welcome your committee's review.

ETHICAL PROCEDURES

1. Permission has been granted to carry out this study by the school boards and school administration.

2. A permission form (attached) will be sent out to the parents. The following information will be given:

   (i) The parents will be informed of the general nature of the research study. The format of the scale to be administered to their child will also be explained.

   (ii) There will be an opportunity given to the parents to opt in through the distribution and subsequent return of the permission forms to the researcher.

3. The participation of the children themselves is entirely voluntary in that they can withdraw at anytime.

4 The confidentiality of the subjects will be maintained through the following means:

   (i) No names will appear on any scale form.

   (ii) The data obtained will be used only by the primary researcher. All data will be analyzed and presented in a group fashion rather than on an individual basis

5. In order to obtain biographical information that matches the appropriate subject a coding system will be implemented during the administration procedures.

6 Administration Procedures:

   (i) Administration Time: approximately 30 minutes

   (ii) Introduction of researchers The purpose of the study will be explained in a general sense to the children The children will be reassured that their responses will be confidential and that the primary researcher is the only one to use the information. They will be given the opportunity to opt out.

   (iii) During this introductory period the other researcher will confer with the classroom teacher on the seating arrangement of the students. Each form will be coded with a number on the back.

(iv) The distribution of the scales will follow the seating arrangement and coding system.

(v) The scales will be explained using sample items. This explanation will facilitate the children's understanding of how to interpret the five point Likert rating format.

(vi) The children will be given an opportunity for questions and further clarification of scale items.

(vii) The completed forms will be returned to the researchers and kept in confidential files.

Carolyn Mate

Glenys Weliman

Faculty of Education

Memorial University of Newfoundland

Faculty Committee for Ethical Review of
Research Involving Human Subjects

Certificate of Approval

Investigator: L. Klas

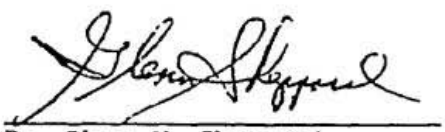
Department/Division/Institute Educational Psychology

Co-investigator(s) Ms. Carolyn Mate and Ms. Glenys Wellman

Title of Research: Research on Stress in Children

Approval Date: April 28, 1989

The Ethics Review Committee has reviewed the protocol and procedures as described in this research proposal and we conclude that they conform to the University's guidelines for research involving human subjects.



Dr. Glenn W. Sheppard
Chairman
Ethics Review Committee

Members: Dr. Leroy Klas, Professor, Department of Educational Psychology

Dr. Amarjit Singh, Professor, Department of Educational Foundations

Dr. Phil Warren, Professor, Department of Educational Administration

Parent Permission Form

We are hoping to start a research programme in your school in the near future. The overall purpose of the research is to help us to find out:

1. the important causes of stress in school children and how stress is demonstrated;

2. the methods of which children cope with stress; and

3. how we can help children to cope better with the array of causes of stress.

The survey will ask children to rate common causes of stress in their lives. The students will also be asked to indicate how much time they spend on selected extracurricular activities.

The survey would be conducted with elementary students. One session of 30 minutes of your child's time would be involved. Participation, in all aspects of the study, will be entirely voluntary.

In addition, there will be no names of any of the survey materials; all responses are strictly confidential and all data will be analyzed and presented in a group fashion.

If you have any questions or concerns about any aspects of the proposed survey, or your child's involvement in it, please contact any of the researchers listed below.

The school board and school officials have already given general approval for the conducting of this research and

survey. If you agree with your child's participation in this study please indicate on the form below and return the lower portion to the school.

Carolyn Mate, Primary Researcher
737-8273 (O)
738-3075 (H)

Glenys Wellman, Researcher
737-8273 (O)

Members of the Research Team:

Dr. Leroy Klas
Educational Psychology, MUN
737-8605 (O)

Dr. Art Sullivan
Psychology, MUN
737-7666

Mr. Tony Simmonds
Psychology, MUN
737-8603

Mr. Dave Brazil
Youth Advisory Council

Ms. Gail O'Keefe
RAINBOWS Program Director
754-0998

_____ I agree to have my child _____ participate in the research programme described above.

or

_____ I would rather not have my child _____ participate in this research.

_____
Parent/Guardian's Signature

APPENDIX D

Rotated Factor Solutions

Table 1

Rotated Five Factor Solution for "Causes and Manifestations of Stress" (Student Scale I)

Items Grouped According to Factors	Factor Loadings F1	F2	F3	F4	F5
1. Self-Concept - School-Related					
25. I feel that most people are doing better in school than I am.	0.71				
9. I cannot concentrate on my studies.	0.66	0.34			
16. I can't do anything about the way I am.	0.53				
21. I feel sick when I think about my studies.	0.49				
14. I do things that get me into trouble.	0.46	0.32			0.47
31. I waste time at home.	0.38				
2. I feel different from others.	0.37				
27. I have too many distractions.	0.33		0.31		0.36
37. I have too many problems.	0.31				
2. School Work Management Concerns					
39. I get behind in my work.	0.38	0.69			
35. I make good use of my time in school.		0.68			
7. I don't have enough time to get everything done.		0.65			
3. I have trouble getting all my homework done.	0.40	0.62			

(table continued)

Items Grouped According to Factors		Factor Loadings				
		F1	F2	F3	F4	F5
8.	I tell other people what to do.		0.43			0.33
22.	I get along with people.	0.36				
15.	I need help scheduling my time.		0.33			
13.	I find it hard to go to sleep.		0.33	0.36		
3.	**Self-Perception - Interpersonal**					
36.	I worry about not being able to finish my education.		0.31	0.70		
12.	I feel that my ideas are not taken seriously.			0.64		
6.	I am too sensitive to what others say.			0.43	0.52	
33.	I worry about the health of my family or friends.			0.41		
2.	I feel different from others.			0.40		
37.	I have too many distractions.			0.38		
13.	I find it hard to go to sleep.			0.36		
10.	I find it easy to talk to other people.			0.36	0.32	
23.	I think my social life interferes with my studies.			0.35		

(table continued)

Items Grouped According to Factors		Factor Loadings				
		F1	F2	F3	F4	F5
4.	**Locus of Control - Influence of Others**					
28.	I blame others when things don't go right.				0.48	0.43
18.	I feel that people expect too much of me.				0.42	
38.	I think that people are fair to me.		0.35		0.41	
40.	I have enough freedom.				0.37	
20.	I let others talk me into doing things I don't want to do.			0.42	0.35	0.36
5.	**Peer-Related Interactions**					
34.	I compete with others in my class for marks.					0.45
28.	I blame others when things don't go right.				0.48	0.43
19.	I am in many activities in school.					0.42
11.	I have too many hobbies and interests that take up my time.					0.42
8.	I tell other people what to do.		0.43			0.33
1.	I don't care about a lot of things.					0.32

Table 2

Rotated Five Factor Solution for "Coping" (Student Scale II)

		Factor Loadings				
Items Grouped According to Factors		F1	F2	F3	F4	F5
1.	**Social Support - Information Seeking**					
1.	I can talk to others about how I feel.	0.73				
19.	I am willing to discuss what happens to me with someone.	0.52				
5.	I can accept change by taking things one step at a time.	0.39				
2.	**Direct Problem Solving**					
9.	I am good at thinking out solutions for my problems.		0.99			
21.	I stand up for my rights.		0.36			
15.	I try to find ways to make things better.		0.32			
3.	**Direct Action - Health**					
10.	I try to keep myself in good physical condition.			0.57		
18.	I get plenty of sleep.			0.52		
23.	I get regular exercise.			0.52		
12.	I eat a well-balanced diet.	0.48		0.34		

(table continued)

Items Grouped According to Factors	Factor Loadings F1	F2	F3	F4	F5
4. Intrapsychic					
20. I pretend that I don't have any problems, even when I really do.				0.70	
8. I over-react when I feel nervous.				0.65	
5. Relaxation					
17. I listen to music to relax.					0.62
3. I know how to relax.					0.44

Table 3

Rotated Seven Factor Solution for "Leisure Time Usage - Participation" (Student Scale III)

		Factor Loadings						
Items Grouped According to Factors		F1	F2	F3	F4	F5	F6	F7
1.	**Activities with Peers**							
8.	Organized sports (team or individual competition).		0.73					
17.	Volunteer-school programs.	0.54						
1.	Watching television.	0.44						
9.	Playing sports with friends.	0.33						
2.	**Computer**							
18.	Play on home computer.			0.99				
3.	**Homework**							
4.	Homework.			0.99				
4.	**Practice**							
7.	Music lesson				0.96			
5.	**Socializing**							
10.	Talking on the telephone.					0.56		
2.	Going to the arcade.					0.49		

(table continued)

Items Grouped According to Factors		Factor Loadings						
		F1	F2	F3	F4	F5	F6	F7
16.	Shopping.					0.42	0.56	
6.	**Chores**							
11.	Preparing meals.							0.60
7.	**Community Activities**							
6.	Scouts/Guides/Cadets.							0.58
13.	Work for pay.		0.37					0.43
12.	Baby-sitting brothers/sisters.							0.31

Table 4

Rotated Six Factor Solution for "Leisure Time Usage - Interest" (Student Scale IV)

		Factor Loadings					
Items Grouped According to Factors		F1	F2	F3	F4	F5	F6
1.	**Socially Desirable/Acceptable**						
2.	Cleaning my room, clothes, the house.	0.73					
11.	Homework.	0.62					
13.	Preparing meals.		0.45				0.31
5.	Church and church groups.	0.35					
3.	Reading for fun (books, magazines).	0.32					
2.	**Social Activities**						
12.	Talking on the telephone.		0.76				
4.	Hanging out with friends (at home or outside).		0.50				
17.	Shopping.		0.49				
18.	Babysitting brothers/sisters.		0.38				
3.	**Television**						
1.	Watching television.			0.98			
4.	**Games**						
10.	Playing sports with friends (not organized)						

(table continued)

Items Grouped According to Factors	Factor Loadings					
	F1	F2	F3	F4	F5	F6
5. Goal-Oriented Pursuits						
15. Work for pay.					0.63	
8. Volunteer-school programs.					0.37	
6. Video Games						
6. Playing on home computer.						0.65
16. Going to the arcade.						0.33