

A STUDY OF THE RELATIONSHIP BETWEEN  
ADOLESCENT STRESS AND SCHOOL ABSENTEEISM

by

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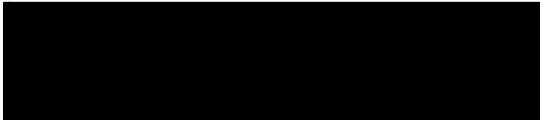
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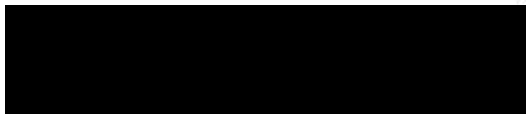
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To my mentors -- the graduate nursing school faculty and my undergraduate instructors.

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To my classmates and camaraderie.

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ABSTRACT

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## CHAPTER I

### INTRODUCTION

Two general concepts provide the foundation for the school nurse in public health practice: prevention of disease or injury and promotion of health (Wold, 1981). Prevention strategies are directed toward students under some specific stress or risk. Nursing interventions directed toward primary prevention are designed to promote optimal health. Secondary prevention is accomplished through early diagnosis and prompt, adequate treatment and disability limitation. In the public schools the nurse coordinates vision, hearing, dental, and scoliosis screening programs which serve to sort out well students with presumed health problems from those well students apparently problem free. The nursing interventions of health education and health screening typify two of the ways in which the school nurse practices health promotion and primary and secondary prevention of disease.

The concept of health promotion implies that there are degrees of wellness or adaption to life. Health promotional strategies, the major one being health education, focus on the well student. In addition to considering a student's stage and rate of growth and development, the school nurse assesses the level of stress being experienced by the student and his ability to cope and adapt. Stress as measured by life change is another area

with the potential for screening in the school. Because levels of stress and health status are related (Holmes & Rahe, 1967; Coddington, 1972a), interventions directed toward students with measured high stress levels would presumably positively affect those students' positions on the health continuum. Rogers and Reese (1965) stated that information regarding the extent and kinds of morbidity in school populations is available through studies of absences. The purpose of this research is to investigate the relationship between their stress levels and the absence rates of adolescent students. If a positive relationship is shown to exist, then the absence record alone could be used to indicate those students toward whom further assessment and intervention techniques would be directed. The absence record could then also be used as a criterion against which to measure the efficacy of the instituted stress-coping interventions.

#### REVIEW OF LITERATURE

Educators are engaged in providing students with optimal learning opportunities. This requires the student's presence in the classroom. Attendance is closely monitored and absences noted. In some settings grades are adjusted on the basis of the number of absences. Thus it is seen that absences from school can create stress and anxiety in the student. Conversely, stress created by psychosocial stressors has been positively correlated with illness which

accounts for over half of the school absences (Rogers et al., 1965). The review of the literature considers stress, adaptation, adolescent development, life change, and school absenteeism as they apply to the problem to be researched.

### Stress

The concept of stress is very old and and it affects our lives in many ways. In 1936, Hans Selye increased our understanding of the concept when he defined the General Adaptation Syndrome (GAS) which consists of an alarm reaction, an ensuing adaptation stage, and a stage of exhaustion (if the acquired adaptation is lost again). The stress or alarm-producing factors, called stressors, are each different and yet they all produce essentially the same biological stress response (Selye, 1973). Medical research has identified the components of the nonspecific response of the body to any demand made upon it as consisting of adrenal enlargement, thymicolymphatic shrinkage and microscopic gastrointestinal ulcers.

Distinct from the biological response which they produce are the stressors, i.e., stress-producing stimuli. There are both physical and psychosocial stressors. Pain, cold, effort, fatigue, fear, losses, anger, the need for concentration, loss of blood, and even success that requires a reformulation of one's life cause stress if their intensity or duration are sufficient. There exists an extensive

research effort to further define and measure this component of the concept (Holmes and Rahe, 1967; Holmes and Masuda, 1974; Coddington, 1972a, 1972b; and Christiansen, 1981) which will be addressed later in this chapter.

Also involved in every reaction are the mediating factors or intervening variables which influence the way in which the stressor is perceived and adapted to by that particular individual. The interpretation of the event is based on that person's past experience, his inherent biochemical constitution, the integrity of his immune system, and his learned psychological defenses. All of these components of the GAS combine to make adaptability "the most distinctive characteristic of life" (Selye, 1973, p. 699).

Man's adaptability has long been the focus of nursing. In 1859 Nightingale noted the important relationship between an individual's ability to adapt and cope with his environment and his health. Wold (1981) outlined the basic components of the conceptual models of present day nurse theorists as including the following widely accepted assumptions related to adaptation.

- "1. Man is an integrated biopsychosocial being (Byrne & Thompson, 1978; Roy, 1980).
- "2. Man is constantly interacting with a changing and challenging environment (Roy, 1980).
- "3. To cope with his changing environment man uses both innate and acquired biological, psychological, and social means (Roy, 1980).

- "4. 'Health and disease are patterns of adaptive change' (Levine 1966; 2452) and are an 'inevitable dimension of life.' (Roy, 1980, p. 181).
- "5. To respond positively (and not merely react) to his changing environment, man must adapt (Roy, 1980).
- "6. 'The person's adaptation level is determined by the combined effect of three classes of stimuli: (1) focal stimuli . . . , (2) contextual stimuli . . . , and (3) residual stimuli . . . .' (Roy, 1980, p. 181).
- "7. 'Nursing intervention must be founded not only on scientific knowledge, but specifically on recognition of the individual's behavioral responses which indicate the nature of the adaptation taking place.' (Levine, 1966, p. 2452)." (Wold, 1981, p. 76)

The school nurse works with preschool and school age children, adolescents, and their families. Of major importance in the nursing function is the understanding and assessment of the degree of success in their adaptational processes.

#### Adolescent Development

Recognizing that stress is adaptation to change (Reres, 1980), we have only to observe the teenager in the process of massive change to be aware of the extremely high stress levels experienced. The new body image, unfamiliar sexual feelings, and new values which may be in conflict with family values create stress for the adolescent (Fine, 1977). Major developmental and psychosocial changes occur in adolescents as they continue toward mastering their cognitive abilities, establishing their own identities,

establishing their independence from parents, continuing their development of relationships with peers of both sexes, and preparing themselves for self-sufficiency (Nelms, 1977).

The adaptational status can be assessed from observation of the methods the adolescent uses to function within the family, the school, and among the peer group. The normal behavioral responses vary according to which adolescent stage is being experienced. Nelms (1981) categorized adolescents in the following way. The early stage adolescent, 12 to 14 years old, typically seems self-centered and moving away from previous behavior patterns. The 14 to 16 years middle stage adolescent clearly leaves childhood and moves to a new identity which is almost entirely determined by the peer group. The late adolescent, approximately 17 to 19 years, develops an awareness of his own strengths and weaknesses and is no longer dependent on the peer group. This maturing adolescent begins to think about his future and to make choices about his education and occupation. Heisler and Friedman (1980) and Lipsitz (1979) agreed that it is remarkable that throughout the struggle for independence and personal identity most adolescents cope well.

### Stressors

A wide range of phenomena can be considered as stressors. Christiansen (1981) listed environmental

stressors, social status stressors, personal handicaps, economic stressors, natural disasters, technological catastrophes, war, and personal unrealized expectations, in addition to life change, as forms of stressors. In this study, the stressor of life change and the stress response of absenteeism will be considered.

Life change has been the focus of research for the last two decades. Life change events consist of the ordinary changes one can expect throughout a lifetime as well as extraordinarily disruptive changes. Events considered either desirable or undesirable, events imposed upon the individual or chosen by him are all considered as life changes. Research on life changes, also referred to as stressful life events, began in the 1930's when Adolf Meyer advocated the use of a life chart in medical diagnosis. Data regarding various life situations and the patient's reaction to them were collected.

Holmes and Rahe (1967) continued the investigation of the relationship between stressors and the onset of disease with the publication of a scale of 43 life events, the Social Readjustment Rating Scale (SRRS). In addition to listing the event, each event was quantified according to the amount of socially adaptive response required in the average person's life. The SRRS was used to construct a Schedule of Recent Experience (SRE), a questionnaire which has been used with a wide variety and

large number of populations during the succeeding years (Holmes and Masuda, 1974). Retrospective studies which collect data at the same point in time both on current illnesses and on prior life changes have shown relationships between recent life change and several illness outcomes. These include sudden cardiac death, onset of myocardial infarction, pregnancy and birth complications, occurrence of fractures, seriousness of illness, multiple sclerosis, diabetes, tuberculosis, incarceration in prison, and the onset of leukemia in children.

(Christiansen, 1981.) Prospective studies have made predictions based on life change scores gathered at one time and illness data at a subsequent time. These predictions have been verified by subsequent examination of medical records (Rubin, Gunderson, and Arthur, 1972).

Coddington (1972a) modified the SRE to contain items specifically related to childhood life styles. His goal was the development of a screening technique that would identify children with increased risk of physical and mental illness and at risk of poor achievement in school. Separate sets of events were listed for preschool, elementary, junior high, and senior high groups. The events were chosen from the literature and from Coddington's experience with normal as well as abnormal children. The group of 243 raters composed of 131 teachers, 25 pediatricians, and 87 mental health workers quantified the items



based on their opinions of the average degree of readjustment necessary for each event. No significant differences appeared in the rank order assigned to items in any age group by group or subgroup of the respondents.

Coddington (1972b) then established normal values of life events for children of different ages and investigated the influence of the variables of sex, race, and socio-economic class. The survey of over 3500 healthy children resulted in the construction of an age-related curve of average social readjustment scores that was analogous to a growth curve. The investigation failed to reveal differences related to social class, race, or sex.

A study by Heisel, Ream, Raitz, Rappaport, and Coddington (1973) of pediatric patients used Coddington's scales. It looked at four patient groups, i.e., patients with rheumatoid arthritis, general pediatric patients, surgical patients, and psychiatric patients. The study found that the patient groups had experienced more frequent and/or more severe life events before the onset of their illnesses than had their healthy peers.

Influenced by the Gersten, Langer, Eisenberg, and Orzeck (1974) study of child behavior and life change using his scale, Coddington (1975) further modified the adolescent event scale by subdividing it. Items were classified as family events, desirable events, and undesirable events, thus making possible the computation and investigation of

several subscores. Gersten et al. (1974) found high correlations between the number of events reported by an individual child and the weighted score for the events. The study, therefore, recommended the use of the number of events only to evaluate life change. Coddington, however, continued to incorporate the weighted scores for use with his Life Event Scale for Adolescents (LES-A). Therefore, it is possible to tabulate both the number of events and the weighted scores for family, desirable, and undesirable life change.

Coddington's scale has been used in other investigations by Bedell, Giorani, Amour, Tavormina, and Boll (1974), Duncan (1977), Vincent and Rosenstock (1979), and Castillo (1980). Bedell et al. (1974) measured social-environmental stress in chronically ill children participating in a three-week residential summer camp. Youngsters with high levels of experienced stress had poorer self images than did children who experienced a lower, more normal amount of life stress. They perceived of themselves as "poorly behaved, less physically attractive, less able at school work, less popular, and less satisfied with themselves generally" (Bedell et al., 1974, p. 241). During the three-week period children with high levels of life stress experienced significantly more episodes of illness than those children who had experienced low levels of life stress during the previous year.

Duncan (1977) found significantly higher life stress scores among drug dependent adolescents. Coddington and Troxell (1980) found a significant relationship between football injuries and high family event scores and object loss scores as measured by the LES-A. Coddington (1979) reported that pregnant adolescents had significantly higher life event scores than did the nonpregnant controls. Vincent et al. (1979) found that hospitalized adolescent psychiatric patients had a greater number of stressful life events when compared with both general hospitalized adolescents and normal adolescents. Measuring life change as it relates to adolescent employment, Castillo (1981) found that employed adolescents had significantly more stress than did those unemployed adolescents.

A consistent relationship has been found between stressful life events on one hand and physical and emotional illness and illness behaviors on the other. However, some individuals undergoing a large measure of stress do not develop illnesses. The study of life change does not account for that difference. Christiansen (1981) noted that a typical correlation between life change and illness reported in the literature is .30, leaving 91 percent of the variance in illness unexplained. Rabkin and Struening (1976), in their review of life change literature, suggested "comparisons of groups who handle life change effectively with those who appear to break down with little apparent

provocation" to further our understanding of the possible role of life change in precipitating illness. To increase our understanding of the possible physiological, psychological, and sociological mediating variables, recent multivariate studies have developed more complex theoretical models of stress. Grant (1982), Mueller, Edwards, and Yarvis (1977), and Sarason, Johnson, and Siegel (1978) agree that one psychological moderator which appears to mediate the effects of life stress is the person's perception of control over environmental events. Another psychological moderator is sensation-seeking status studied by Smith, Johnson, and Sarason (1978). Grant, Yager, Sweetwood, and Olshen (1982) found differences in cognitive style; both Grant et al. (1982) and Sarason et al. (1978) identified psychosocial supports as mediators of the effect of stress in individuals.

Nurse investigators Yeaworth, York, Hussey, Ingle, and Goodwin (1980), using a tool which they had developed, asked 207 adolescent subjects aged 11-18 years to rate the magnitude of each item on a life stress event scale. The items were similar to Coddington's. They considered "changes and events which literature on adolescence indicates are significant to the developmental tasks of adolescence" (Yeaworth et al., 1980, p. 384). Whereas Coddington (1972a) had first used adults to weight the scale, Yeaworth et al. (1980) asked adolescents to rate

items. "Differences in maturity and culture make it doubtful that all adolescents will perceive life stress events in a like manner and very doubtful that their perceptions will be the same as the perceptions of adults." (Yeaworth et al., 1980, p. 94.) The findings of Goldberg and Comstock (1980) support the view that life event scores depended upon the appropriateness of the list for each demographic subgroup.

The adolescents were asked to indicate how "upset" they believed an event would cause them to be. They marked each item on a scale from one to five ranging from "not at all upset" to "extremely upset" arranged in a multiple choice format. A mean rating was then computed for each item and the means multiplied by 20 to obtain ratings more comparable to the life event scale developed by Holmes and Rahe (1967). Subjects were given an opportunity to write in events which they perceived as stressful which were not listed on the scale. Those additional events written in were considered by the investigators to be either similar to those already listed or examples of sexual or aggressive "acting out" behaviors. The latter were not added to the list of events because the original intent of the 1980 study by Yeaworth et al. had been to look at life stress events in relationship to adolescents identified as "acting out." To add such behaviors to the list of events would have confounded results on such studies

with respect to the directionality of the relationship.

The subjects also marked the number of events which they had experienced during the past year. The mean life change score was 475. The mean number of events experienced was 7.8 for male subjects and 8.7 for females.

The subjects in the Yeaworth (1980) study were adolescents assumed to be in the upper-middle and upper socio-economic classes. This judgment was based on their enrollment in a private independent school. Research by Dohrenwend and Dohrenwend (1974) showed that adults in lower social classes experienced more losses, had fewer resources, and exerted less control over their life situations than do individuals in the upper and middle classes. They, therefore, experienced more stressful living conditions. A study by Mendez, Yeaworth, York, and Goodwin (1980) used the Yeaworth et al. (1980) method to investigate the generalizability of the Dohrenwends' (1974) social class findings to adolescent populations. They studied the magnitude of stress created by life events as perceived by middle class adolescents and compared it with results of the earlier investigation of upper class adolescent stress.

Using 27 items common to the scale marked by both groups, the life change score for upper class subjects was 394.63; for middle class subjects, 433.11. Nine events experienced by the two groups differed significantly.

The upper class subjects were found to hassle more with parents, experience more drugs/alcohol, wore more braces/glasses, and had more trouble with principal/teacher. The upper class subjects, however, perceived the corresponding events as less stressful than did the middle class subjects. Middle class subjects experienced more drugs/alcohol among family members, more illness, more pregnancy among friends, failed more grades in school, and hassled more with siblings.

Variables which influenced ratings were age, grade, sex, and experience with the event. Those who had experienced the event rated it as less stressful. Females perceived 12 events as more stressful than males. Upper class subjects rated only four events statistically different by age. There was a significant difference in the rating of 19 events by grade, a finding also reported by Coddington (1972b).

Mendez et al. (1980) concluded that there were differences in ratings of the stressfulness of the developmental tasks of adolescence between socio-economic levels. They suggested the use of a mean weight when differences between social classes occurred on an item. The amount of similarity in weighting between classes supported their view that the scale taps meaningful incidents for adolescents. Events written in by both groups concerned school, family, peers, or self. This reinforced the validity of the scale as including those life events occurring during adolescence.

Mendez claimed validity and reliability for the scale developed based on the agreement on events listed and the magnitude of stress caused by each. However, studies of validity and reliability have not been reported.

Sands and Parker (1980) and Sarason et al. (1978) suggested a method of achieving more accuracy in the weighting of events. They would ask each subject to weigh the life change experienced. Sarason developed an adult scale using such a procedure. Each item marked is rated on a scale of seven ranging from "extremely negative" to "extremely positive." He found that positive and negative life change scores exhibit patterns of relationship with relevant dependent measures. Anxiety, certain types of personal maladjustment, (i.e., social nonconformity, discomfort, depression), and locus of control were the dependent variables found to be significantly related to negative life events on the Sarason et al. (1973) scale. Events perceived by the subjects as positive showed no significant relationship to the dependent measures. Undesirability of life events was found to be more highly related to patient admissions to mental health centers (Mueller, Edwards, and Yarvis, 1978) and to the characteristics most related to psychological disorders (Mueller et al., 1977). Zeiss (1980) stated that if aversiveness of the event is the major component of Holmes' life change score rather than change per se, then all the studies



using that measure to predict biological and psychological vulnerabilities may be demonstrating increases in vulnerabilities following clusters of unpleasant life experiences.

#### Absenteeism

Rogers et al. (1965) studied frequency, cause, and pupil characteristics related to absence in a suburban high school population. Data were collected during various segments of the time period from January 1957 through June 1961. Data were derived both from official school records and records of absences voluntarily reported to the school nurse. Seventy-five to 80 percent of the absence was due to illness. The study results showed that more absence from high school was due to minor morbidity. Respiratory disease of apparent infectious etiology was the predominant illness associated with absence. Females had slightly higher absence incidence rates in almost all categories than males. About half the illness-causing absences necessitated confinement in bed with above one-fifth requiring the services of a physician. There was a general seasonal variation in absence incidence and prevalence. A given child tended to repeat his relative frequency of absences in successive years of experience.

Pupils with high absence frequency compared to other students had lower academic performance, lower rates of participation in school activities, higher drop out, and more visits to the school nurse. Increased visits to the

nurse were consistent with the view that absence and the attendant illness were indicators of general social maladjustment. Jacobziner (1957) suggested that the absence records of school presented a valuable tool and an effective means of finding children with adverse physical and mental health problems. Rogers et al. (1965) noted that such records have formed the basis for identifying certain children as "at risk" and appropriate for further investigation and referral. The study, however, showed no relationship between absence and either physical abnormalities nor physical fitness. The mental health correlation with absenteeism remained to be investigated.

Berganza and Anders (1978) studied absenteeism epidemiologically searching for correlates which would more easily identify school phobic students. Using a high absence group and a low absence group, they attempted to identify profile variables of students at risk for school avoidance. Seasonal absentee trends, mobility of students, socio-economic status of parents, sex, birth order, and marital status of parents were attributes studied but none were found to help delineate the school phobic child. No significant correlations with absenteeism were found. Berganza et al. (1978), suggested that family stress indicators might be useful in differentiating the high-incidence-of-absence phobic student from the low-incidence-of-absence one.

Using an adolescent scale developed by Sarason et al. (1978), Gad and Johnson (1980) assessed the relationship between life events, both undesirable and desirable, and self-reported indices of health status. School absenteeism was significantly different for students experiencing negative life change who reported low levels of social support as compared with students experiencing negative life change who reported high levels of social support. The findings suggested a relationship between negative life changes and perceived health and personal adjustment which required further study using more objective indices of health and adjustment. The study also supported the position that it is the negative rather than the positive change which is more highly correlated with the variables.

#### CONCEPTUAL FRAMEWORK

Nursing theorists beginning with Florence Nightingale and continuing to the present time with Roy, Levine, Rogers, Bryne, and Thompson view the person's ability to adapt to the environment as highly important to the position of that person with regard to health status. Focusing on all three areas of prevention of disease, i.e., primary, secondary, and tertiary, nurses assess the adaptational potential of the person receiving services. Nursing interventions are then operationalized to help the person meet their needs at that particular adaptational level.

Adaptation to change is the on-going process of life. Selye declared that "there is parallelism between the degree of aliveness and the extent of adaptability in every man" (Selye, 1973, p. 699). Of all the animals, man undergoes the greatest amount of change from birth and dependency to independent maturity. As growth and life proceed, there are developmental stages during which the change rate intensifies. One of those is old age and the other is adolescence, upon which this study focuses. Nolan et al. (1976) described developmental changes during the adolescent period as physical and psychological involving the intellect, attitudes, and interests. Those changes begin at puberty and continue for eight to ten years until the person is ready to assume adult responsibilities and be self-sufficient. Understandably, the adolescent experiences a tremendous amount of change during this time of life due to bodily and emotional growth. With the ordinary changes of everyday life being experienced in addition, the cumulative amount of change can reach very high levels.

Selye (1973), in defining the concept of stress, referred to the life change as one type of stressor. Holmes et al. (1967) developed the life change scale in an attempt to quantify the stressors. Coddington (1972a & b) and Yeaworth et al. (1980) modified the scale to include the life events typical to adolescents. Research for the most recent two decades has attempted to further define the

relationship between stressors and illness, both biological and psychological. Such illnesses in an adolescent population would presumably result in absences from school.

In a study of school absences by Rogers et al. (1965), it was suggested that absences are usually related to minor illnesses which in turn are believed to be associated with social maladjustment and poor mental health. High levels of stress have been shown to be related to emotional disorders and illnesses (Christiansen, 1981; Holmes et al., 1967; Holmes et al., 1974; Heisel et al., 1973; Bedell et al., 1974; Duncan, 1974; and Vincent et al., 1979). Does it then follow that high levels of stress are significantly correlated with absence levels in high school students? Would a mass screening of those students using Coddington's LES-A help to designate those students vulnerable to absence, physical illness, and poor mental health and therefore appropriate for nursing interventions?

Sweeney, Snyder, Goldstein, and Rosenwald (1980) and Scrivner (1981) effectively lowered absenteeism in the school setting and the occupational setting respectively. Sweeney et al. (1980) found that an information dispensing support group was effective with suspended students and their families. Scrivner (1981) reported on counseling programs which resulted in reduced absenteeism. Interventions of

this sort would presumably affect lowered student absentee rates.

### Assumptions

The first assumption of the study is that high school students do now and will continue to experience life changes as stressful.

The second assumption is that the LES-A is a valid measure of stress.

The third assumption is that students will continue to display absence behaviors which can frequently be related to stress.

### The Hypothesis

The hypothesis is that students with high levels of stress will have higher rates of absence than students with low levels of stress.

### The Definition of Terms

Student. Student is a person enrolled in the 10th grade health education classes during the first semester of the 1982-83 school year.

Stress. Stress is the numerical value as measured by student self report on the LES-A considering his/her individual life events during the previous three months. High numerical values represent high stress levels.

Absence. Absence is the nonpresence of the student at school for all or any half of one day during

the ensuing three months following the measurement of stress by the LES-A.

## CHAPTER II

### METHODS

#### Design

The method used in this study is that of ex post facto/correlational research designed to examine the relationship among variables. Polit and Hungler (1978) stated that such research lacks active manipulation of the independent variable so cause-and-effect conclusions are unwarranted. The research takes the form of a prospective study in which observations of stress as measured retrospectively are presumed to be the cause of school absences. It is thought that the research will support the use of predictive studies to reduce student absenteeism. While the disadvantages of lack of control make erroneous interpretation of results more likely, ex post facto/correlational studies are important because of their realism and generalizability.

The rationale for this choice as a method included the availability of both the data and the population to this researcher. The group chosen was one enrolled in required health education classes. The subjects at the 10th grade level were thought to be possibly more cooperative and less cynical than older students. The LES-A socio-psychological stress-measuring instrument has evolved from the work of Coddington (1972a, 1972b, 1975, 1981) and is based on the Holmes et al. (1967) SRRS which has been extensively used



across many populations as an indicator of the onset of disease.

### Setting

The study was carried out in the Tigard School District in Oregon. The district covers 34 square miles and lies in the eastern section of Washington County. It includes four small cities, portions of unincorporated land, and a small part of Clackamas County. The district comprises about 25 square miles of a rapidly developing suburban area of metropolitan Portland. The population of the district is 38,480. There are a variety of industrial and commercial sites within the district boundaries. Economical support and employment in the area are provided by agriculture (2.6%), the manufacturing sector (33.7%), and the nonmanufacturing sector (63.7%) (Pacific Economica, 1981).

Total enrollment for the school year 1982-1983 was 6,295 in the district's 12 schools. Enrollment in the high school where this study was conducted was 1,315. The 10th grade class numbered 494.

Throughout personal, written, and telephone communications, the classroom teachers and administrative personnel were regularly apprised of the progress of the preparations being made to carry out the study. <sup>\*</sup>The study proposal was reviewed and approved by the Oregon Health Sciences University (OHSU) Committee on Human Research.

The OHSU review process met the requirements of the school district for the protection of human subjects. A letter approving the study was received from the superintendent of the school district (see Appendix A).

### Subjects

The participants studied comprised 180 students selected on the basis of Tigard School District records. They and their parents had received a letter (see Appendix B) explaining the proposed study and a consent form (see Appendix C). Both were distributed to the students during health classes. The students represent a nonrandomized sample of convenience. These persons were (a) members of the 10th grade, (b) enrolled in the first semester sophomore health education classes, and (c) those who with their parents had completed the consent form. Of the potential 267 study candidates, 200 responded on the questionnaire. Six of those had not completed the consent form as required and 14 were not in the 10th grade.

### Instrument

The LES-A (Coddington, 1981) is a self report questionnaire composed of a list of 50 life change events related to the lives of adolescents (see Appendix D). The first Coddington (1972a) list consisted of 61 events on which events were rated as to magnitude of change. The reference event "birth of a brother or sister" was given a value of 500. The events were rated by 243 professionals

(131 teachers, 25 pediatricians, and 87 mental health workers) involved with children and adolescents. Three years later, in 1975, a second group of 349 adolescents rated the events. The adolescents rated 14 items considerably higher and 9 moderately higher than had the professionals. There was little or no disparity in the case of 15 items. Three items were given moderately low weights in comparison. Using the results from his 1975 study, Coddington (1981) further modified the scale into its present form. Eleven of the original events were deleted and the remaining 50 were subdivided into 17 family events, 15 undesirable events, and 18 desirable events.

The possible range for the number of occurring events was from 0 to 50 with subscore ranges of (a) from 0 to 17 for family events, (b) from 0 to 15 for undesirable events, and (c) from 0 to 18 for desirable events. The possible range for weighted scores was from 0 to 2204 with subscore ranges of (a) from 0 to 880 for family score, (b) from 0 to 712 for undesirable score, and (c) from 0 to 612 for desirable score. Normative event and score data were reported by Coddington (1972b) for a group of 3,620 children and adolescents. The average number of life events for senior high students was 4.71. The average score for that same group ranged from 226-280.

Validity and reliability studies of the LES-A have been undertaken. Content validity has not been established but Coddington (1981) reported that studies were underway for that purpose. Coddington (1981) did claim reasonable reliability for the life change scale. In test-retest reliability data for 33 male adolescents reporting events occurring between August 1979 and August 1980 on three different occasions, Pearson product-moment correlational coefficients were significant beyond the .002 level with one exception when  $p = .02$ . Interrater reliability between the 33 adolescents and their parents during two different periods of time was significant with two exceptions. When reporting events for the previous seven months, agreement between the two groups was significant on family event scores, desirable event scores, extrafamilial event scores, and total life event scores, but not on undesirable event scores. When reporting events occurring 11-23 months before, there was significant agreement on desirable event scores, undesirable event scores, extrafamilial event scores, and total life event scores but not on family event scores.

Item analysis was done of the LES-A in a test-retest comparison of 63 high school males with a three-month interval between tests. A level of significance in excess of .001 was found on 35 of the 49 items. Ten items appeared unreliable, four of which seemed quite objective (e.g.,

death of a grandparent, birth of a brother or sister.) Coddington, for that reason, choose not to eliminate them but rather to improve the directions for marking the scale to more clearly delineate the period of time under question.

### Scoring

A scoring worksheet was provided by Coddington (1979) (see Appendix E) for use with the LES-A, thus making possible the computation of a variety of scores. The Undesirable Score (U), the Desirable Score (D), and the Family Score (F) are derived by multiplying the number of times an event occurred (for the purposes of this study it was one time only) by its corresponding weight and adding the products of each categorical group. The Grand Total Score (GT) is the sum of the three groups, thus  $GT = D+F+U$ . It is possible to compute three other scores, i.e., a Personal Score (P), a Total Personal Score (TP), and an Environmental Score (E). The Personal Score represents a balance between Desirable and Undesirable Score ( $P = D-U$ ). The Total Personal Score is the sum of the Desirable and Undesirable Scores ( $TP = D+U$ ). The Environmental Score is the Desirable Score minus the Undesirable Score minus the Family Score ( $E = D-U-F$ ). Coddington (1979) stated that the Family Score would seem to be one over which the adolescent had little control. Conversely, the Desirable and Undesirable scores may offer the opportunity for somewhat more control. Coddington based his decision

to compute the Environmental Score on the assumption that a relatively stable family support system can help the adolescent adjust to high levels of personal life events.

#### Data Sources

The socio-demographic data (grade, age, sex, race) was provided by the students upon completion of the LES-A. Two sets of stress data were supplied by the LES-A, i.e., the number of events occurring in the individual participant's life during the prior three months and the individual discreet scores tabulated when the weightings were assigned to those events. Three months after the collection of the stress data, the absence data for that time segment was secured from the records stored in the school computer.

#### Pretest

The instrument was pretested to determine if respondents to the questionnaire would be able to understand the questions and directions. Six ninth grade students from the junior high school health education class served as subjects. According to their instructor, the academic abilities of the six ranged from low to high. All six reported they were able to understand the directions given and to mark on the LES-A those events which had happened in their lives. The time required to mark the scale was found to be less than 10 minutes for this group.

When the subjects had finished marking the LES-A, they were asked for their reactions to and overall impressions of the questionnaire and the process of marking it.

The group responded with questions about stress, absence, and health but very few procedural queries. However, they did identify the need for clarification about where to mark the scale, i.e., before or after the statement of the event. Also, the need for privacy was expressed by the group who agreed it could be provided if respondents sat in alternating classroom seats. These findings were incorporated into the finalized procedure plan.

#### Procedure

All of the participants responded on the LES-A on January 6, 1983 during the beginning 10 minutes of each sophomore health class. The health classes are team taught by two instructors in a large lecture room. Therefore, both of the instructors, this investigator, and the participants from each class period were together in one room during the administering of the questionnaire. Introductory remarks avoided any reference to stress or illness, in an attempt to prevent response bias. Instead, it was stated that the investigator was studying "adolescent health." Participants were thanked for their willingness to be involved in the study. They were asked to sit one seat apart to protect the confidentiality and privacy of each person. The LES-A was passed to participants. Nonparticipants remained in

the room and sat quietly during the period of time required by their classmates to mark the LES-A.

Each LES-A was coded with a number matched with the participant's school student number. For purposes of distribution, the student's name was written on a small square of adhesive-backed paper and attached to the LES-A with the appropriate code number. Students were first asked to remove the paper upon which their name was written in order to provide confidentiality during the study. Participants were then asked to fill in the blanks provided for age, sex, date, and race (a separate one-half sheet of paper asked for grade data), and to circle the appropriate three-month time period for which recording was being done. The identification code number had been previously recorded by the investigator in the blank provided for name. Students were then instructed to mark any of the events which had occurred in their lives during the previous three months by placing a check mark after the event. Both instructors and the investigator remained in the classroom throughout the procedure. They were thus available to answer questions and to reassure any student who might become anxious or saddened upon recalling past events while marking the LES-A.

#### Treatment of the Data

To examine the relationship between the student stress level and the student absence rate, a Pearsonian coefficient of correlation was computed using the programs



designed by the Statistical Package for the Social Services (SPSS). Given the size of the sample (180), it was believed that a correlational coefficient no lower than .30 would support the hypothesis that students reporting high stress levels would exhibit high absenteeism. Even though the correlational coefficient might be statistically significant ( $p = .05$ ) at a lower level, the magnitude would not be meaningfully supported unless life change accounted for 9-10 percent of the variance in the absence rate. Many statisticians have discussed the difference between significance and meaningfulness of relationships, e.g., Hays (1973, p. 668).

A multiple regression analysis was computed to examine which of the LES-A family, undesirable, and desirable subscores would be the best predictor of absenteeism. Similarities and differences between the male and female students were examined. The data was considered to be continuous. Therefore, the Student t test was chosen for use in the statistical evaluation. The alpha level for the study determined a priori, was  $p = .05$ .

## CHAPTER III

### RESULTS

A total of 180 participants responded on the LES-A. A summary of the results of this descriptive study is presented in five sections. These sections are: selected demographic data of the adolescent participants; the frequency of occurrence of the events in the lives of the adolescents; the magnitude of the scores and subscores; the sex differences on the occurrence of events, magnitude of scores, and rate of absence; and the relationship between stress events and scores of the adolescents and their school absences.

#### Selected Demographic Data

The participants ranged in age from 13 years to 18 years. The average age was 15.3 years. Fifty percent of the participants were 15.2 years or younger. As shown in Table 1,

Table 1  
Age of Adolescents Responding on LES-A

Age in Years	Adolescents	
	n	%
13	1	0.6
14	4	2.2
15	115	63.9
16	57	31.7
17	2	1.1
18	1	0.6

the modal age was 15 years ( $\underline{n} = 115$ ). Ninety-two males comprised 51 percent of the participants, slightly outnumbering the 88 females (49%). The adolescents were all members of the 10th grade. The Caucasian adolescents comprised by far the largest portion of the group's racial distribution as shown in Table 2.

Table 2  
Race of Adolescents Responding on LES-A

Race	Adolescents <sup>a</sup>	
	n	%
Caucasian	164	95.9
Mexican American	3	1.8
Indian American	1	0.6
Asian American	3	1.8

<sup>a</sup>The percentages are based on  $\underline{n} = 171$  due to missing data.

#### Occurrence of Events

The total number of events reported by individual participants as having occurred over the previous three months ranged from 0 to 18, as shown in Table 3. The average number of reported events was 5.1. Fifty percent of the students reported 4.3 or fewer events. Three was the modal number of events ( $\underline{n} = 33$ ) reported to have been experienced.

Each of 44 events was reported as having been experienced by some number of adolescents. The number ranged from 1 to 76 students. The most frequently reported

Table 3

## Number of LES-A Events Reported by Adolescents

Events	Adolescents	
	Number of Events	%
0-2	54	30.0
3-5	60	33.3
6-8	33	18.4
9-11	22	12.2
12-14	8	4.4
15-17	2	1.1
18	1	0.6

event, "being told you are attractive by a friend," was reported by 76 students. Sixty of the participants reported "finding a new dating partner," thus making it the second most often reported event.

Appendix F shows the number and percentages of participants' responses on the LES-A. Six events were reported as not having occurred among these participants, i.e., the death of a parent, the death of a brother or sister, graduating from high school, being accepted by a college of your choice, getting pregnant or fathering a pregnancy, or getting married. Only one student reported "being sent away from home." Another student reported "divorce of your parents." Another one student reported experiencing the "death of a close friend."

The number of students reporting events in the classifications of Family, Undesirable, and Desirable are shown in Table 4. Fifty percent of the adolescents reported

Table 4

Frequency of Family, Undesirable, and  
Desirable Events Reported by Adolescents

Number of Events	Adolescents Reporting Categorical Events, $n^a=180$		
	Family	Undesirable	Desirable
0	64 (35.6)	49 (27.2)	38 (21.1)
1	56 (31.1)	56 (31.1)	37 (20.6)
2	27 (15.0)	34 (18.9)	40 (22.2)
3	22 (12.2)	17 (9.4)	29 (16.1)
4	4 (2.2)	10 (5.6)	16 (8.9)
5	5 (2.8)	9 (5.0)	9 (5.0)
6	1 (0.6)	4 (2.2)	3 (1.7)
7	1 (0.6)	1 (0.6)	7 (3.9)
8	0 (0.0)	0 (0.0)	1 (0.6)
	$\bar{M} = 1.28;$ $\bar{SD}, 1.38$	$\bar{M} = 1.62;$ $\bar{SD}, 1.59$	$\bar{M} = 2.16;$ $\bar{SD}, 1.88$

<sup>a</sup>Numbers in parentheses indicate percentages of adolescents.

one or no family events, one or no undesirable events, and two or fewer desirable events. The modal number of family events reported was none ( $n = 64$ ). The modal number of desirable events reported was two ( $n = 40$ ). The modal number of undesirable events was one ( $n = 56$ ). The table shows the average number of events and the standard deviation in each category.

The frequency of family events, undesirable events, and desirable events reported are shown in Table 5, Table 6, and Table 7, respectively. Those events reported by the greatest number of students, *i.e.*, "being told you are attractive by a friend" (76) and "finding a new dating partner" (60) were contained within the desirable classification. Five students reported "deciding to leave

home," making it the least often reported event in the desirable category.

Table 5  
Family Events Reported  
in the Lives of Adolescents

Event	Adolescents	
	n	%
Major decrease in your parents' income	32	17.8
Start of a new problem between your parents	31	17.2
Change in your father's job so he has less time at home	26	14.4
Major increase in your parents' income	25	13.9
Loss of a job by your mother or father	20	11.1
End of a problem between your parents	19	10.6
A new adult moving into your home	17	9.4
Mother beginning work outside the home	16	8.9
Hospitalization of a parent	15	8.3
The death of a grandparent	13	7.2
Hospitalization of a brother or sister	6	3.3
Marital separation of your parents	3	1.7
Remarriage of a parent to a step-parent	3	1.7
Birth of a brother or sister	2	1.1
Divorce of your parents	1	0.6

Table 6  
Undesirable Events Reported  
in the Lives of Adolescents

Event	Adolescents	
	n	%
Breaking up with a boy/girl friend	58	32.2
Failing to achieve something you really wanted	58	32.2
Start of a new problem between you and parents	55	30.6
Being invited by a friend to break the law	28	15.6
Being told to break up with a boy/girl friend	25	13.9
Failing a grade in school	22	12.2
Becoming involved with drugs	13	7.2
Move to a new school district	10	5.6
Being hospitalized for illness or injury	7	3.9
Appearance in juvenile court	5	2.8
Being responsible for an automobile accident	4	2.2
Suspension from school	4	2.2
Death of a close friend	2	1.1
Being sent away from home	1	0.6

Table 7

Desirable Events Reported  
in the Lives of Adolescents

Event	Adolescents	
	<u>n</u>	%
Being told you are attractive by a friend	76	42.2
Finding a new dating partner	60	33.3
Finding an adult who really respects you	46	25.6
Recognition for excelling in a sport or other activity	39	21.7
End of a problem between you and your parents	32	17.8
Being invited to join a social organization	28	15.6
Getting your first permanent job	18	10.0
Going on the first date of your life	18	10.0
Getting your first driver's license	18	10.0
Outstanding personal achievement (special prize)	16	8.9
Getting a summer job	13	7.2
Stopping the use of drugs	13	7.2
Becoming an adult member of a church	6	3.3
Deciding to leave home	5	2.8

The family event reported by the largest number of students ( $\underline{n} = 32$ ) was "major decrease in your parents' income." The family event least frequently reported ( $\underline{n} = 1$ ) was the "divorce of your parents." A same number of students ( $\underline{n} = 58$ ) reported "breaking up with a boy/girl friend" and "failing to achieve something you really wanted" to make these the most frequently reported undesirable events. "Being sent away from home" was the least often reported undesirable event ( $\underline{n} = 1$ ).

Magnitude of Scores

Grand Total Scores for all events ranged from 0 to 642 with 50 percent of the adolescents scoring 147.5 or below.

The modal Grand Total Score was 0 ( $n = 9$ ). In addition to the range and mean for the Grand Total Score, Table 8 lists

Table 8

Adolescents' Life Change Total and Subscores

Scores	Range	Mean	SD
Grand Total (F+U+D)	0-642	176.71	127.02
Family (F)	0-313	52.22	58.83
Undesirable (U)	0-248	60.26	59.34
Desirable (D)	0-273	63.92	57.33
Personal (D-U)	(-)183-(+)227 (410)	3.66	65.37
Total Personal (D+U)	0-469	124.17	96.66
Environmental (D-U-F)	(-)404-(+)166 (570)	-48.56	92.50

those data for the Family, Undesirable, or Desirable scores as well. A Family Score of 40.6 or below was tabulated for 50 percent of the participants. The modal Family Score was 0 ( $n = 64$ ). The modal Undesirable Score was also 0 ( $n = 49$ ). One-half of the students' Undesirable Scores were 42.8 or below. The modal Desirable Score was 0 ( $n = 37$ ) and 50 percent of the adolescents scored 57.5 or below on the Desirable score. Using the three subscores, *i.e.*, Family, Undesirable, and Desirable scores, an Environmental Score, a Personal Score, and a Total Personal Score were also computed. The range, the mean, and the standard deviation of those three scores are also shown in Table 8.



The results of the correlational analysis of the total and subscores with the absence data are reported in a later section.

Absence

As shown in Table 9, the number of absences for the participants ranged from 0 days to 17.5 days. One-half of the students were absent 1.78 days or less during the three-month period. The modal number of days absent was

Table 9

Adolescent Absences

Number of Days	Adolescents	
	<u>n</u>	%
0-1	86	47.8
1.5-5	61	33.9
5.5-10	25	13.9
10.5-15	6	3.3
15.5-17.5	2	1.1

0 (n=49). The average number of days absent was 2.86 (SD, 3.54).

Sex Differences

Overall, boys and girls responded similarly on the LES-A. However, they differed in the number of times they reported nine events. As shown in Table 10, girls reported being more often "told to break up with a boy/girl friend" and more often reported that indeed they did "break up with a boy/girl friend." Girls more often reported "finding a new dating partner" and "being told you are

Table 10  
Female-Male Differences on Nine LES-A Events

Event	Females (F)		Males (M)		Calculated t Value	Two- Tailed Probability
	Mean	S.D.	Mean	S.D.		
Mother beginning work outside home	0.05	0.21	0.13	0.34	-2.03 <sup>a</sup> (df=152.80)	.04 M>F
Being invited by a friend to break the law	0.10	0.31	0.21	0.41	-1.95 <sup>a</sup> (df=168.4)	.05 M>F
Becoming involved with drugs	0.02	0.15	0.12	0.33	-2.58 <sup>a</sup> (df=129.02)	.01 M>F
Finding an adult who respects you	0.33	0.47	0.18	0.39	2.24 <sup>b</sup> (df=178)	.03 F>M
Being told to break up with a boy/girl friend	0.20	0.41	0.08	0.27	2.50 <sup>a</sup> (df=149.35)	.01 F>M
Breaking up with a boy/ girl friend	0.42	0.50	0.23	0.42	2.80 <sup>b</sup> (df=178)	.006 F>M
Finding a new dating partner	0.44	0.50	0.23	0.42	3.12 <sup>b</sup> (df=178)	.002 F>M
Going on the first date of your life	0.17	0.38	0.03	0.18	3.10 <sup>a</sup> (df=122.73)	.002 F>M
Being told you are attractive by a friend	0.56	0.50	0.29	0.46	3.69 <sup>b</sup> (df=178)	.000 F>M

<sup>a</sup>Separate variance estimate used.

<sup>b</sup>Pooled variance estimate used.

attractive by a friend." Also, females more often reported "finding an adult who respects you" and "going on the first date of your life." Boys, on the other hand, reported more instances of "being invited by a friend to break the law" and "becoming involved with drugs." One other event,

"mother beginning to work outside the home," was reported more frequently in the males among these participants.

Males and females differed on both the total number of events and the number of desirable events reported as shown in Table 11. Girls reported experiencing a higher

Table 11  
Female-Male Differences on Scores and  
Number of LES-A Events and Absences

Life Change	Females (F) n=88		Males (M) n=92		Calculated t value (Pooled) (Variances) (df=178))	Two- Tailed Probability	Two- Tailed Comparison
	Mean	S.D.	Mean	S.D.			
EVENTS							
Total	5.67	3.34	4.47	3.71	2.28	.024	F>M
Family	1.32	1.27	1.24	1.49	.38	NS	
Undesirable	1.78	1.58	1.46	1.59	1.39	NS	
Desirable	2.57	1.81	1.76	1.82	2.98	.003	F>M
SCORES							
Grand Total	198.18	120.78	156.16	130.06	2.24	.026	F>M
Family	54.33	54.81	50.21	62.66	.47	NS	
Undesirable	67.24	58.74	53.58	59.46	1.55	NS	
Desirable	76.26	56.02	52.11	56.36	2.88	.004	F>M
Environmental (D-U-f)	-45.31	96.10	-51.67	89.33	.46	NS	
Personal (D+U)	9.02	68.28	-1.47	62.40	1.08	NS	
Total Personal (D-U)	143.50	92.29	105.68	97.62	2.67	.008	F>M
Absence	3.55	3.98	2.19	2.94	2.60 <sup>a</sup>	.010	F>M

<sup>a</sup>Separate variances estimate used for this calculation with degrees of freedom equal to 160.07.

number of total events,  $t(178) = 2.28$ ,  $p < .05$  and a greater number of desirable events,  $t(178) = 2.98$ ,  $p < .01$ . As would be expected, the Grand Total and Desirable scores were also different. The females reported greater Grand Total Scores,  $t(178) = 2.24$ ,  $p < .05$ . Girls also reported higher Desirable

Scores,  $t(178) = 2.88$ ,  $p < .01$ , and higher Total Personal Scores (D+U),  $t(178) = 2.67$ ,  $p < .01$ . The absence rate was also higher for girls than for boys,  $t(160.07) = 2.60$ ,  $p < .01$ .

Relationship between LES-A Events, Scores, and Absence Rate

There was a weak positive relationship between the number of LES-A events or scores and absence from school ( $r$  ranged from  $-.10$  to  $.22$ ), the LES-A Grand Total Score explained only 4.4 percent ( $r^2 = .044$ ) of the variance in the absence rates for these adolescents. The  $r$  value describing the relationship between absence and the Grand Total Score ( $.21$ ) was below the  $.30$  level established a priori as significant. The variance increased slightly when the Undesirable Score ( $r^2 = .052$ ) and the Total Personal Score ( $r^2 = .046$ ) were used in the correlation. As shown in Table 12, the total number of events and also the number of undesirable events correlated with absence rate with more strength than did other event categories or subscores although the relationship was not statistically significant. There was a weak negative relationship between the Environmental Score (D-U-F) and the absence rate ( $-.13$ ) tending to support the suggestion by Coddington (1979) that a stable family situation might moderate the impact of life stress.

As would be expected, the correlations between the total number of events and the categorical events,

Table 12  
Intercorrelations Among Number of Events, LES-A Scores  
and Subscales, and Absence Rate

	1	2	3	4	5	6	7	8	9	10	11	12
1 Total Events	-	.65***	.77***	.77***	.99***	.63***	.76***	.77***	-.41***	-.02	.92***	.19**
2 Family Events		-	.33***	.22**	.70***	.99***	.32***	.22***	-.70***	-.10	.33***	.10
3 Undesirable Events			-	.38***	.78***	.32***	.99***	.38***	-.60***	-.56***	.83***	.22***
4 Desirable Events				-	.70***	.19**	.38***	.99***	.25***	.52***	.82***	.11
5 Grand Total Score					-	.69***	.78***	.71***	-.49***	-.08	.90***	.21**
6 Family Score						-	.31***	.20**	-.71***	-.11	.30***	.10
7 Undesirable Score							-	.37***	-.61***	-.58***	.83***	.23***
8 Desirable Score								-	.26***	.54***	.82***	.13*
9 Environmental Score									-	.77***	-.22**	-.13*
10 Personal Score										-	-.04	-.10
11 Total Personal Score											-	.22**
12 Absence												-

\* p < .05

\*\* p < .01

\*\*\* p < .001

i.e., desirable, undesirable, and family, were relatively high, ranging from .65 to .77. Each category contributes to the total number of events. Therefore, as the number of categorical events increases, so does the total number of events. Likewise, the correlation of the Grand Total Score with the subscores of Family, Desirable, and Undesirable ranged from .69 to .78. The correlation between the Environmental Score (D-U-F) and the Personal Score (D-U) was .77. Because the differences between the Desirable and Undesirable Scores are used to compute both the Environmental and Personal Scores, a relatively high correlation can be expected. The negative correlation (-.22) between the Environmental Score and the Total Personal Score can be explained again by the subscores used in the computations. The Environmental Score is found by subtracting two subscores from the third (D-U-F), whereas, the Total Personal Score is a summation of two of those scores (D+U).

The multiple correlational coefficients explaining absence rate predicted by the Family, Desirable, and Undesirable subscores are displayed in Table 13. None of the subscores is a statistically significant predictor of the dependent variable. However, when the effect of the Desirable and Family scores was controlled, the Undesirable Score had the greatest beta weight and was the most predictive ( $\underline{R}^2 = .055$ ) of the three.

Table 13

Hierarchical "Set" Multiple Regression Analysis  
 Explaining Absence Rate by the LES-A Subscales

	Multiple R	R <sup>2</sup>	$\Delta R^2$	F for R <sup>2</sup>	Beta
Desirable Score	.13	.016	.016	2.89 (df=1, 178)	.003
Family Score	.15	.022	.066	1.95 (df=2, 177)	.002
Undesirable Score	.23	.055	.033	3.41* (df=3, 176)	.012

\*p < .05.

## CHAPTER IV

### DISCUSSION

#### Subjects

The number of 10th grade students participating in this study represented 70 percent of the potential 256 subjects enrolled in the first semester health education class and 36 percent of the total sophomore class at Tigard High School. They were present in class on the day chosen for the administering of the LES-A. The sample was thought to include almost all of the students wishing to participate. Instructors had announced that students wishing to complete consent forms and mark the LES-A at a later time could do so. Students who were absent on the day that the questionnaires were completed were given the same opportunity. No additional students chose to participate.

The high response rate was perhaps due in part to an incentive offered to the students. It was suggested that students be given five extra points toward their cumulative class grade for participating. This was done. It was thought that participation in the study would perhaps heighten the students' awareness of the importance of research studies in the health fields. Participation seemed appropriately related to the general subject matter presented in class and was also of value in expanding



knowledge in the area of health promotion. Participation, therefore, was rewarded.

There were other factors possibly contributing to the high response rate. School personnel were cooperative whenever approached by the investigator. They expressed commitment to the completion of the study. Although they were not observed to encourage student participation, it is possible that the positive attitude of the instructors was exhibited to the students in the classroom, with or without instructor awareness. The attitude of parents also may have contributed to the response rate. The opportunity was afforded parents to request a summary of the study findings. The parents of 157 of the participants (87%) chose to make such a request. This apparent interest on the part of the parents could have aroused student interest and encouraged participation.

The investigator was known to a large percentage of the potential participants as a former nurse in their school. Although personal involvement with the majority of students had been minimal, the investigator shared face and name familiarity with many. The effect of that familiarity upon the participation rate, the response of parents through the consent form, and the marking of the LES-A by the students is unknown. The investigator was known to district personnel and that was believed to be a factor contributing to the feasibility of studying these

participants. Gathering the data for the study was more easily accomplished due to prior knowledge of district policies and procedures.

#### Demographic Data

The demographic data collected for the study included the sex, age, race, and grades of the participants. No attempt was made to measure the socioeconomic status (SES) of the sample. Only the 10th grade students were studied, making generalization to the students in other grades difficult. The findings are probably generalizable to the other 10th grade students in Tigard. These participants may be similar to 10th graders in other settings on measures of sexual distributions and age.

Because of the racial configuration of the predominantly Caucasian group of students, the generalizability of the findings is limited. The number of life change events may not be representative of the number one would find in a more racially diverse group such as that in the nearby metropolitan Portland area. The findings of Coddington (1972b) and Gad (1980) suggest, however, that there is little difference between races on reported events. Coddington (1975) found a high correlation (.85) between 306 white and 43 black adolescents on the weighting of the stressfulness of each event. Earlier, Coddington (1972b) had reported no racial or SES differences between child and adolescent groups on number of life events or

adolescent groups on number of life events or scores. Race accounted for five percent of the variance in Family Scores, six percent in Undesirable Scores, and one percent in Desirable Scores. Coddington (1972b) found that SES accounted for two percent of the variance in Family Scores, seven percent in Desirable Scores, and one percent in Undesirable Scores. Subjects in the higher SES groups reported the occurrence of greater numbers of desirable events.

Gad et al. (1980) found significantly higher negative life change scores for black adolescents ( $n = 69$ ) than for white adolescents ( $n = 98$ ) using the Life Experiences Survey (Sarason, 1978). However, when SES was controlled, findings suggested that the difference in negative change scores was largely the result of SES rather than racial differences. Mendez et al. (1980), studying SES, found differences on nine events. They found that on 27 items of life change upper class subjects scored lower (394.63) than did middle class subjects (433.11). No comparisons of the present study are possible with either the Mendez et al. (1980) or the Gad et al. (1980) findings. The study is limited by the unavailability of SES data.

Differences in responses based on the age of the 10th grade students were not investigated. Normative data (Coddington, 1972b) was gathered on student groups divided by school level (i.e., preschool, elementary

school, junior high school, and high school). A more detailed investigation of these high school students based on age differences would have been confounded by physical, sociological, and psychological developmental issues.

Overall, the present study found that boys and girls report similar life events. However, there were differences in the frequency with which the two sexes reported some of the items. The females reported a greater number of desirable events. This may reflect the more sophisticated social skills usually seen in girls as compared with the majority of boys in this age group. With the earlier onset of puberty for girls, there is often an accompanying, more acute, social awareness. These young women perhaps create situations for which the outcomes are desirable. Coddington (1979) suggested that the desirable (and undesirable) events might be those over which the adolescent had some control. For example, 10th grade girls probably devote more time than do boys to personal grooming. Their efforts may result in compliments on their attractiveness. They have thus experienced control over the occurrence of that event in their lives. A compliment might also be better remembered for a longer time and thus, perhaps, more likely to be reported on the LES-A. The desired feedback satisfies not only the adolescent but the cosmetic and clothing industries as well. They continue spending

millions of dollars in the media of television and print suggesting that appearance "makes the teenager."

"Going on the first date of your life" and "finding a new dating partner" were reported more often by females and also may be related to the maturational differences. The lag in sexual maturity may keep boys from dating as early as girls. There is another factor which may influence the response differences. Boys are just beginning to acquire drivers' licenses and, via the license, dating independence. Although the difference was not significant, the tendency of having secured the license was greater in boys. Fourteen percent reported receiving their license as compared with six percent of the girls. And even though sex roles are changing, girls perhaps still tend less to do the driving on dates. That is probably especially true in the age group of these participants.

"Finding an adult who respects you" could also be related to dating practices although not necessarily so. The larger number of females reporting the event could possibly reflect the pattern of some young women of 15 and 16 years to date young men 20 or 21 years of age. Codington (1979) theorized that some girls cope with personal loss by forming an intimate relationship with another person, perhaps an older man. The finding may also be explained by the more advanced social skills of the girls.

Their ability to interact with other persons increases the likelihood of "finding an adult" with whom an interchange of ideas is possible.

A larger number of girls also reported "being told to break up with a boy/girl friend" and also actually "breaking up . . . ." Assuming that girls date more frequently for reasons already discussed, it could be expected that they then would have the potential for a greater number of "breaking up" events. Even in an era of changing sex roles, parents and other caring persons retain the long-held belief that adolescent girls must be protected from various untoward events, including those dating situations judged to be "bad." The response of a large percentage of this sample strongly suggests that indeed parents and friends deem it their duty to decide with whom these young women shall spend time. The ending relationship could easily be with a same-sex friend and need not be that of a dating situation.

Boys more often were "invited by a friend to break the law" and "involved with drugs." The socialization of our youth by the culture may indeed encourage such activities in males. They are allowed greater freedom to travel about in their communities and are vulnerable to involvement in illicit activities. In some environmental situations, petty crime and drug and alcohol abuse may even be perceived of as signs of both

masculinity and maturity. Perhaps the significant difference in the number of mothers of boys beginning to work outside the home contributed to delinquent behaviors by the unsupervised adolescents.

Girls were absent more than boys. Reese et al. (1965) found a similar tendency among the students studied. Throughout the process of socialization, females receive more reinforcement for the expression of feelings than do males. Associated with the male tendency to ignore feelings may be the tendency to ignore bodily signs and symptoms which perhaps would cause a female student to remain at home for the day. Generally, females are more often attuned to their bodily and emotional feelings. This may account for their higher absence rate.

#### Instrument

The events which Coddington (1981) listed on his LES-A do appear to be those which occurred in the lives of these students. These subjects reported a similar average number (5.02) of events compared with Coddington's 1972 high school group (4.71). The average magnitude of the scores for the present subjects was 176 which is somewhat lower than that of the 1972 normative data group (226-280). The lower scores were to be expected in view of Coddington's 1979 modifications of the LES-A scoring weights and the elimination of 11 events.

One event was deleted from computations of the present study. A discrepancy was found in the way in which students responded to "beginning your first year of senior high school." It was reported by 42 percent of the female and 46 percent of the male students (see Appendix B). In actuality, almost none would have started their tenth year of school during the three-month period for which events were being reported, October 1 to December 31. Conceivably, one or two students could have begun the school year late but 79 probably did not. Because of the confusion surrounding the reporting, it was dropped from the descriptive data. One wonders if it was because so much importance was attached to the beginning of the high school years by these youth that nearly one-half reported it. Or could it have been because beginning the first year of high school was perceived as a continuous process that does not end on the first day of 10th grade?

The two most frequently reported events, both in the desirable category, i.e., "being told you are attractive by a friend" and "finding a new dating partner," may be seen as progress toward developmental task accomplishment. Establishing one's identity as a person, in this case an attractive person, is one of those tasks. In middle stage adolescence, the new identity is almost entirely determined by the peer group. Reinforcement and the ensuing enhancement of self-esteem usually follow such a compliment from a



friend. A second task, that of continuing to develop relationships with peers of both sexes, is served when new dating partners are found. The struggle for one's identity and for independence from parental control may have been expressed when 30 percent of the subjects reported "the start of a problem between you and your parents." The resolution of problems as was reported by 18 percent, suggests an ongoing process of conflict and conflict resolution as part of the movement toward self-sufficiency.

There was a clustering of reported events which could be assumed to be related to the current depressed economy of the geographic area where the students reside. Eighteen percent (32) reported "a major decrease in your parents' income." Fourteen percent (26) of the students reported "change in father's job so he has less time at home." Eleven percent (20) of the group reported "loss of a job by your mother or father." Nine percent (16) reported "mother beginning to work outside the home." The recession presumably accounted for several of the events occurring in the lives of these students.

Scoring the instrument with the Scoring Sheet (Coddington, 1979) was straightforward. Although the LES-A has been arbitrarily divided into desirable, undesirable, and family events, it can provide only nominal data in those categories. Ordinal data could be collected if the

adolescents' perceptions of the degree of desirability or undesirability were recorded. Was "breaking up with a boy/girl friend" a very negative experience because one was then without a dating partner? Or was it more positive, because a newer, more desirable partner had been acquired? Was "failing to achieve something really wanted" a devastatingly negative event or was the adolescent able to quickly turn it into a growth experience and take a positive view of the episode? There is no provision for the report of perceptual variations in the effect of the LES-A events in its present form.

Events such as "major increase in your parents' income" are susceptible to a broad range of interpretation by the adolescent. Most teenagers have had only peripheral exposure to economic dynamics when compared with the wage earning adult. They would not be expected to understand the full impact of income reductions or increases on a family. As suggested by Sarason (1978), the use of a Likert scale would give a more valid assessment of the magnitude and direction of change as perceived by the respondent. The relationship between the negativity and positivity of changes and various outcome and moderator variables could then be studied with more confidence.

#### Absence Rate

Absence data were considered to be representative. Sophomore students beginning their high school

careers were believed to demonstrate their novice status through regular school attendance. A small percentage may have escaped being marked absent upon occasion or may have left school during the day unobserved. However, for the largest portion of this population, conformity probably sets the order of the day. Therefore, although school personnel indicated that instructors vary in the responsibility they assume with regard to reporting attendance, the absence data were accepted with a fairly high degree of confidence.

The relationship of absence rate with stress as measured by life changes was strongest when the undesirable event data was used, although not significant even then. The predictability of absence was slightly stronger when scores included summation of the undesirable component with others, i.e., the Grand Total Score (D+U+F) and the Total Personal Score (D+U). The Family Score was not significantly related to absenteeism. Therefore, the suggestion by Berganza, et al. (1978) that family stress might be a variable influencing the absence rate is not strongly supported by this study. As previously suggested, a Likert scale for reporting the "extremely negative" to "extremely positive" perception of LES-A events by respondents would enhance our understanding of stress caused by life change.

This study failed to support the hypothesis that there is a significant relationship between absence

that adolescent life change as measured by their own instrument explained two percent of the absence rate due to illness. This study found that life change explained 4.4 percent of the absence rate in the participants.

## CHAPTER V

### SUMMARY

The health of students is the focus of the interventions used by the nurse practicing in the school setting. Nursing interventions are directed toward health promotion. The nurse assesses the stage and rate of growth and development of the individual. The magnitude of stress being experienced by the student is also assessed in addition to his ability to cope and adapt. The measurement of the psychosocial stressor of life change would strengthen the armamentarium of the nursing assessment. The LES-A is an instrument which measures adolescent life change and its use would enable the nurse to assess more scientifically the degree of stress being experienced by the students. Absenteeism is believed to be an outcome related to stress. If a strong correlation were found between stress as measured by life change and the easily-measured variable of absenteeism, then high absence rates would indicate those students at risk and appropriate for nursing and educational interventions. The absence rate also could be used as a criterion variable against which to measure the efficacy of the instituted interventions. Therefore, the present descriptive correlational study was undertaken to examine the relationship between stress and absenteeism.

The following assumptions were made:

1. The first assumption of the study is that high school students do now and will continue to experience life changes as stressful.
2. The second assumption is that the LES-A is a valid measure of stress.
3. The third assumption is that students will continue to display absence behaviors which can frequently be related to stress.

The hypothesis is that students with high levels of stress will have higher rates of absence than students with low levels of stress.

Adolescence is that period of life during which intense social, psychological, and physical changes occur. Concurrently, the happenings of everyday life create change in the lives of adolescents. The cumulative effect of these changes may lead to stress reactions which manifest themselves in illness, both physical and psychological. Research efforts to better define the concept of adolescent stress have been undertaken by the disciplines of nursing, medicine, and psychology.

The study subjects were 180 10th grade students in Tigard High School. The stress data were provided by the adolescents when they completed a questionnaire during a health education class. Two instructors and the investigator were present in the classroom. The LES-A was the instrument used. It was developed by Coddington (1972a, 1972b, 1975, 1979, 1981) and measured the life change events which had occurred in the lives of the

subjects during the previous three months. The absence data were secured from the computer used by the school. The absence data covered the three-month period after the LES-A was marked by the students. A descriptive analysis of the data was done using the SPSS. A Pearsonian  $r$  was computed to examine the correlation between the measured variables. A multiple regression analysis was computed using three LES-A subscores and the absence rate.

The adolescents' responses indicated that they did experience the changes listed on the LES-A, supporting, in part, the first and second assumptions. Indeed, they reported having experienced the life changes. However, the magnitude and direction of the stress experienced with each event was not measured by the LES-A. The second assumption regarding the validity of the LES-A is again supported only in part. Reliability studies have shown (Coddington, 1981) that repeated measures using the scale had a relatively low variability. Validity is claimed by Coddington (1981) for the LES-A and by Yeaworth (1980) for lists composed of similar events but validity studies remain to be done. Findings by Gad et al. (1980) suggested that it was the negative life change which was related to adolescent stress problems of health and personal adjustment. The question of whether it is negative change or change per se which should be measured and which results in stress reactions was not addressed in this study.

Students did display absence behaviors supporting that portion of the third assumption. It was not shown that such behaviors are related to stress. The hypothesis was not supported by the findings of the study. A significant number of students with high levels of stress did not exhibit higher absence rates than did those students with low life change scores. Therefore, the findings of this study do not support the use of the absence rate as an outcome criterion upon which to base stress-coping interventions.

#### Limitations

The participants represented a nonrandomized sample of convenience. SES data were not collected. The study was clearly not generalizable to adolescents of other racial or SES backgrounds. The sample was self-selected, although the incentive offered may have neutralized that effect somewhat. Data collected from the participants were assumed to be valid and no independent investigation was conducted to discover accuracy. The questionnaire in the form of a written checklist may have seemed similar to an examination for some students. The anxiety often associated with testing situations may have contributed to mismarking. Another limitation may have been the lack of privacy in a classroom setting. The LES-A is limited in the range of responses it allows on each event. However, results of the study could be added to the expanding



### Recommendations For Further Study

The effect of life change events upon adolescents needs to be understood by parents, teachers, nurses, physicians, counselors, and mental health workers. The findings of this investigation suggest a number of possible modifications and extensions for further research. A search for higher correlations of stress with outcome variables other than absence is needed. Variables routinely measured by the school, e.g., grade point average, number of visits to the nurse, number of visits to the counselor, number of "acting out" or "withdrawn" behaviors requiring instructor or administrator intervention, number of hours employed per week, or number of school activities might show a stronger relationship to life change stress.

As the literature review indicated, perceptions of and reactions to life change events are influenced by many variables. Conceptual models of stress (Christiansen, 1981, and Mendez et al., 1980) include those intervening variables which should be considered if theory is to be developed and tested in relation to life stress and its management. The variables include the individual's perception of the stressor, the individual's coping styles, and the social supports available to the individual. The individual's perception of control over the event influences the threatening or nonthreatening impact of the stressor. Coping styles are moderator variables

which augment or diminish the effect of stressors. Social supports are viewed as resources outside the individual which influence outcomes following life change. Studies to evaluate the impact of the interaction of coping, perception, and social supports on the lives of adolescents as they encounter life changes stress have begun (Gad et al., 1980) and more studies are needed.

#### REFERENCE LIST

- Bedell, Jeffrey R.; Giordani, Bruno; Amour, Judith L.; Tavormina, Joseph; & Boll, Thomas. Life stress and the psychological and medical adjustments of chronically ill children. Journal of Psychosomatic Research, 1977, 21, pp. 237-242.
- Berganza, Carlos E. & Anders, Thomas F. An epidemiologic approach to school absenteeism. Journal of Child Psychiatry, 1978, 17, pp. 117-125.
- Castillo, Iliana M. Relationship of stressful life events and adolescents' employment. Psychological Reports, 1980, 47, pp. 1195-1198.
- Christiansen, John F. Assessment of stress: environmental, intrapersonal, and outcome issues. Ed. McReynolds, Paul. Advances in Psychological Assessment V. San Francisco: Jossey-Bass, 1981, pp. 62-122.
- Coddington, R. Dean. The significance of life events as etiological factors in the diseases of children I - a survey of professional workers. Journal of Psychosomatic Research, 1972, 16, pp. 7-18.

- Coddington, R. Dean. The significance of life events as etiological factors in the diseases of children II - a survey study of a normal population. Journal of Psychosomatic Research, 1972, 16, pp. 205-212.
- Coddington, R. Dean. Adolescents identify stressful life events. Children and Parents Under Stress. Symposium sponsored by Langley Porter Neuropsychiatric Institute, San Francisco, 1975.
- Coddington, R. Dean. Life events associated with adolescent pregnancies. Journal of Clinical Psychiatry, 1979, 40, pp. 39-47.
- Coddington, R. Dean & Troxell, Jeffrey R. The effect of emotional factors on football injury rates - a pilot study. Journal of Human Stress, 1980, 6 (4), pp. 3-5.
- Coddington, R. Dean. Preliminary results of reliability studies of life event scale for adolescents. Unpublished Manuscript, 1981. (Available from 48 Neron Place, New Orleans, Louisiana 70118.)
- Dohrenwend, Barbara S. & Dohrenwend, Bruce P. Stressful life events: their nature and effects, New York: John Wiley, 1974.

- Duncan, David F. Life stress as a precursor to adolescent drug dependence. International Journal of the Addictions, 1977, 12, pp. 1047-1056.
- Fine, Stuart. Adolescent somatic symptoms: masks for individual and family psychopathology. Comparative Psychiatry, 1977, 2, pp. 135-140.
- Gad, Marsha T. & Johnson, James H. Correlates of adolescent life stress as related to race, SES and levels of perceived social support, Journal of Clinical Child Psychology, 1980, 9, pp. 13-16.
- Gersten, Joanne C.; Langer, Thomas S.; Eisenberg, Jeanne G.; & Orzeck, Lida. Child behavior and life events: undesirable change or change per se? Ed. Dohrenwend, B. and Dohrenwend, B., Stressful Life Events: Their Nature and Effects. New York: John Wiley and Sons, 1974.
- Goldberg, Evelyn & Comstock, George. Epidemiology of life events: frequency in general populations. American Journal of Epidemiology, 1980, 6, pp. 736-752.
- Grant, Igor; Yager, Joel; Sweetwood, Harvey L.; & Olshen, Richard. Life events and symptoms. Archives of General Psychiatry, 1982, 39, pp. 598-605.

- Hays, W. L. Statistics for the social sciences (2nd ed.).  
New York: Holt, Rinehart & Winston, 1973.
- Heisel, J. Stephen; Ream, Scott; Raitz, Raymond; Rappaport,  
Michael; & Coddington, R. Dean. The significance of  
life events as contributing factors in the diseases  
of children - III a study of pediatric patients.  
The Journal of Pediatrics, 1973, 83, pp. 119-123.
- Heisler, Alice & Friedman, Stanford. Adolescence:  
psychological and social development. The Journal  
of School Health, 1980, 50, pp. 381-385.
- Holmes, Thomas H. & Masuda, Minoru. Life change and  
illness susceptibility. Ed. Dohrenwend, B. and  
Dohrenwend, B., Stressful Life Events: Their Nature  
and Effects. New York: John Wiley and Sons, 1974.
- Holmes, Thomas & Rahe, Richard. The social readjust-  
ment rating scale. Journal of Psychosomatic Research,  
1967, 11, pp. 213-218.
- Hussey, Maria A. & Ingle, Maribeth. The development  
of life events scale for adolescents. Unpublished  
masters thesis, University of Cincinnati, 1977.
- Jacobziner, Harold. Health services for the school-aged  
child - a new approach. Journal of American Medical  
Association, 1957, Vol. 165, (No. 13), pp. 1669-1676.

- Lipsitz, Joan. Adolescent development: myths and realities. Children Today, 1978, 8, pp. 2-7.
- Mendez, Lois K.; Yeaworth, Rosalee C.; York, Janet A.; & Goodwin, Trena. Factors influencing adolescents' perceptions of life change events. Nursing Research, 1980, 29, pp. 384-388.
- Mueller, Daniel P.; Edwards, Daniel W.; & Yarvis, Richard M. Stressful life events and psychiatric symptomology: change or undesirability? Journal of Nervous and Mental Diseases, 1978, 1, pp. 16-20.
- Nelms, Bobbie. What is a normal adolescent? Maternal and Child Nursing, 1981, 6, pp. 402-406.
- Nightengale, Florence. Notes on nursing what it is, and what it is not. New York: Dover Publications, Inc., 1969.
- Nolan, N.; Murray, R.; Groh, M.; Leonard, B.; Smith, M.; & Zentner, J. Assessment and health promotion for the adolescent youth. In Murray, R., & Zentner, J. Nursing Assessment and Health Promotion Through The Life Span. Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1979.

Pacific Econimica. The official publication of Tigard School District 23J, 8,685,000 general ogligation bond sale, First Interstate Bank, 1981.

Polit, Denise F. & Hungler, Bernadette P. Nursing research: principles and methods. Philadelphia: J.B. Lippincott Company, 1978.

Reres, Mary E. Stressors in adolescence. Family and Community Health, 1980, 2, pp. 31-41.

Rogers, K. D. & Reese, Grace. Health studies - presumably normal high school students II, absence from school, American Journal of Diseases in Children, 1965, 109, pp. 9-27.

Rubin, T. T.; Gunderson, E. K. E.; & Arthur, R. J. Life stress and illness patterns in the U.S. Navy V. prior life change and illness onset in the battleship crew. Journal of Psychosomatic Research, 1971, 15, pp. 89-94.

Sands, James D. & Parker, John. A cross-sectional study of the perceived stressfulness of several life events. International Journal of Aging and Human Development, 1979-80, 10, pp. 335-341.



- Sarason, Irwin G.; Johnson, James H.; & Siegel, Judith.  
Assessing the impact of life changes: development of  
the life experiences survey. Journal of Consulting  
and Clinical Psychology, 1978, 5, pp. 932-946.
- Scrivner, R. A. Handling stress makes dollars and sense.  
Occupational Health Nursing, 1981, 29, pp. 17-18.
- Selye, Hans. The evolution of the stress concept.  
American Scientist, 1973, 61, pp. 692-699.
- Smith, Ronald E.; Johnson, James H.; & Sarason, Irwin G.  
Life change, the sensation seeking motive, and psycho-  
logical distress. Journal of Consulting and Clinical  
Psychology, 1978, 46, pp. 348-349.
- Sweeny, Rader; Snyder, Gayle; Goldstein, Harriet; &  
Rosenwald, Pricilla. School suspensions: an  
in-house prevention model. Children Today, 1980,  
9, pp. 19-21.
- Vincent, Kenneth R. & Rosenstock, Harvey A. The  
relationship between stressful life events and  
hospitalized adolescent psychiatric patients.  
Journal of Clinical Psychiatry, 1979, 40, pp. 262-264.
- Wold, Susan J. School nursing a framework for practice.  
St. Louis: The C.V. Mosby Company, 1981.

Yeaworth, Rosalee; York, Janet; Hussey, Maria; Ingle, Maribeth; & Goodwin, Trena. The development of an adolescent life change event scale. Adolescence, 1980, 15, pp. 91-97.

Zeiss, Antonette. Aversiveness versus change in the assessment of life stress. Journal of Psychosomatic Research, 1980, 24, pp. 15-19.

APPENDIX A



*Tigard Public Schools, District 23j  
Administration Office  
13137 S.W. Pacific Hwy.  
Tigard, Oregon 97223  
Area Code (503)620-1620*

December 6, 1982

Mrs. Gerry Grover  
7720 S. W. 91st  
Portland, OR 97223


Dear Gerry:

I have reviewed your request to conduct a research project entitled "A Study of the Relationship Between Adolescent Stress and School Absenteeism." I understand that the study is being done in partial fulfillment of the requirements for your masters degree and is under the direction of Mary M. McBride, MS, faculty member of the School of Nursing of the Oregon Health Sciences University.

You have my approval to conduct this study in the Tigard School District.

Sincerely,

TIGARD SCHOOL DISTRICT 23J

  
Leibert S. Fennell, Superintendent  
rb

APPENDIX B

Oregon Health Sciences University  
Department of Psychiatric/Mental  
Health Nursing


Dear Students and Parents:

I have been employed in the Tigard schools for the previous six years as a school nurse and am presently on leave of absence to complete my education at the master's level. I am currently engaged in a research project as part of that program in which I will examine the relationship of stress as experienced by adolescents through the ordinary happenings of everyday life and their school absences. It is my hope that the research will help in aiding both the school and the students as we search for ways to prevent both illness and reduce absenteeism.

Your signatures on the attached permission form are necessary in order to allow student participation in this study. I would be happy to answer questions which you may have and I can be contacted through the high school office. Results of the study will be sent to you if you so indicate on the attached consent form.

I appreciate your willingness to be involved in this study.

Sincerely,



Gerry Grover, RN, BSN

Attachment

APPENDIX C

A STUDY OF THE RELATIONSHIP BETWEEN  
ADOLESCENT STRESS AND SCHOOL ABSENTEEISM

Oregon Health Sciences University  
Division of Psychiatric/Mental Health Nursing  
Portland, Oregon 97201

Responsible Investigator: Geraldine Grover, RN, BSN, Telephone (503) 225-7827

SUBJECT NAME: \_\_\_\_\_

I, \_\_\_\_\_, herewith agree to be a subject in the above-  
(Student Name)  
referenced investigation under the supervision of Gerry Grover. The purpose of this study, entitled "A Study of the Relationship Between Adolescent Stress and School Absenteeism," is to determine if there is a relationship between adolescent stress as measured by life change and school absenteeism. This study is being conducted under the direction of Mary M. McBride, RN, MS, faculty member of the School of Nursing, Oregon Health Sciences University. The subjects selected to be in the study are the 10th grade students enrolled in health education classes during the first semester of this school year, 1982-83.

Participation in this study involves a 30-minute session during which I will give written answers on a questionnaire about the things that ordinarily happen in the life of a teenager.

I understand that I will receive no personal benefit or remuneration from participation in this study. However, by serving as a subject, I will contribute to new knowledge that may assist health professionals in the future in the area of health promotion. No names will be used. I understand that confidentiality will be provided by coding.

I understand that the investigator will be present while I am completing the questionnaire and that I may ask for information or for support if I experience any discomfort regarding the marking of the questionnaire.

I understand that I am free to withdraw my participation in the study at any time without affecting my relationship with the Tigard School District. Tigard School District Administration has given approval for the conduct of this study.

I certify that as of this date I consent to participation in this study and that my parent(s), whose signature(s) appear below, agree that I may indeed participate.

\_\_\_\_\_  
Subject Date: \_\_\_\_\_

\_\_\_\_\_  
Parent/Legal Guardian Date: \_\_\_\_\_

\_\_\_\_\_  
Parent/Legal Guardian Date: \_\_\_\_\_

I would like a summary of the findings of this study upon its completion. Please send it to the following address:

\_\_\_\_\_  
Street

\_\_\_\_\_  
City Zip Code



APPENDIX D

LIFE EVENT SCALE — ADOLESCENTS (Age 12 and over)

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ AGE: \_\_\_\_\_ SEX: \_\_\_\_\_ RACE: \_\_\_\_\_

The purpose of this form is to record the events that occurred in your life during a THREE MONTH PERIOD of time.

First, circle the time period to be covered by your responses:

January 1st to March 31st

April 1st to June 30th

July 1st to September 30th

October 1st to December 31st

Now, place a check (✓) after each of the events listed below if it occurred during this THREE MONTH PERIOD.

The death of a parent  
The death of a brother or sister  
Divorce of your parents  
Marital separation of your parents  
The death of a grandparent  
Hospitalization of a parent

Remarriage of a parent to a step-parent  
Birth of a brother or sister  
Hospitalization of a brother or sister  
Loss of a job by your father or mother  
Major increase in your parents' income  
Major decrease in your parents' income

Start of a new problem between your parents  
End of a problem between your parents  
Change in father's job so he has less time home  
A new adult moving into your home  
Mother beginning to work outside the home  
Being told you are very attractive by a friend

Going on the first date of your life  
Finding a new dating partner  
Breaking up with a boy/girl friend  
Being told to break up with a boy/girl friend  
Start of a new problem between you and your parents  
End of a problem between you and your parents

Beginning the first year of senior high school  
Move to a new school district  
Failing a grade in school  
Suspension from school  
Graduating from high school  
Being accepted at the college of your choice

Recognition for excelling in a sport or other activity  
Getting your first driver's license  
Being responsible for an automobile accident  
Becoming an adult member of a church  
Being invited to join a social organization  
Being invited by a friend to break the law

Appearance in a juvenile court  
Failing to achieve something you really wanted  
Getting a summer job  
Getting your first permanent job  
Deciding to leave home  
Being sent away from home

Being hospitalized for illness or injury  
Death of close friend  
Becoming involved with drugs  
Stopping the use of drugs  
Finding an adult who really respects you

Getting pregnant or fathering a pregnancy  
Getting married

Outstanding personal achievement (special prize)

APPENDIX E

GHT PRODUCT

108 = \_\_\_\_\_  
 88 = \_\_\_\_\_  
 70 = \_\_\_\_\_  
 62 = \_\_\_\_\_  
 52 = \_\_\_\_\_  
 52 = \_\_\_\_\_  
 51 = \_\_\_\_\_  
 50 = \_\_\_\_\_  
 49 = \_\_\_\_\_  
 46 = \_\_\_\_\_  
 41 = \_\_\_\_\_  
 43 = \_\_\_\_\_  
 41 = \_\_\_\_\_  
 30 = \_\_\_\_\_  
 35 = \_\_\_\_\_  
 34 = \_\_\_\_\_  
 28 = \_\_\_\_\_

Raw Family  
 Score + \_\_\_\_\_

39 = \_\_\_\_\_  
 35 = \_\_\_\_\_  
 43 = \_\_\_\_\_

41 = \_\_\_\_\_  
 47 = \_\_\_\_\_  
 34 = \_\_\_\_\_

36 = \_\_\_\_\_

Raw Undesirable  
 Score + \_\_\_\_\_

21 = \_\_\_\_\_  
 31 = \_\_\_\_\_  
 32 = \_\_\_\_\_

46 = \_\_\_\_\_  
 50 = \_\_\_\_\_  
 73 = \_\_\_\_\_  
 45 = \_\_\_\_\_

61 = \_\_\_\_\_ (boys)  
 88 = \_\_\_\_\_ (girls)

### SCORING WORK SHEET

#### DIRECTIONS:

1. Place the SCORING WORK SHEET to the right of the LIFE EVENT SCALE for ADOLESCENTS that is to be scored, line up the shaded bars and check to make sure the INDEX marks at the top and bottom are aligned.
2. Multiply each number the subject has circled by the corresponding weight on this WORK SHEET and enter the answer in the space provided.
3. When you have completed this for all Family Events and the Undesirable Events, fold the WORK SHEET along the dotted line and repeat for the Desirable Events.
4. Add the products in EACH group to determine the three Raw Scores.
5. Locate the Raw Scores on the appropriate table in the SCORING MANUAL to convert to Standard Scores.
6. Record the scores in the space provided on the subject's answer sheet.
7. Compute the additional scores according to formulae on the first page of the SCORING MANUAL if desired.

x 26 = \_\_\_\_\_  
 x 42 = \_\_\_\_\_  
 x 34 = \_\_\_\_\_

x 35 = \_\_\_\_\_  
 x 19 = \_\_\_\_\_

x 33 = \_\_\_\_\_  
 x 39 = \_\_\_\_\_  
 x 24 = \_\_\_\_\_  
 x 32 = \_\_\_\_\_

x 25 = \_\_\_\_\_  
 x 18 = \_\_\_\_\_

Raw Desirable  
 Score + \_\_\_\_\_

x 35 = \_\_\_\_\_  
 x 40 = \_\_\_\_\_  
 x 41 = \_\_\_\_\_

x 30 = \_\_\_\_\_  
 x 22 = \_\_\_\_\_

x 78 = \_\_\_\_\_  
 x 39 = \_\_\_\_\_

FOLD ALONG DOTTED LINE

APPENDIX F

Occurrences of Events in Lives of Adolescents

Event <sup>a</sup>	Adolescents n=180	%
Being told you are attractive by a friend	76	(42.2)
Finding a new dating partner	60	(33.3)
Breaking up with a boy/girl friend	58	(32.2)
Failing to achieve something you really wanted	58	(32.2)
Start of a new problem between you and parents	55	(30.6)
Failing to achieve something you really wanted	58	(32.2)
Finding an adult who really respects you	46	(25.6)
Recognition for excelling in a sport or other activity	39	(21.7)
End of a problem between you and parents	32	(17.8)
Major decrease in your parents' income	32	(17.8)
Start of a new problem between your parents	31	(17.2)
Being invited to join a social organization	28	(15.6)
Being invited by a friend to break the law	28	(15.6)
Change in father's job so he has less time at home	26	(14.4)
Being told to break up with a boy/girl friend	25	(13.9)
Major increase in your parents' income	25	(13.9)
Failing a grade in school	22	(12.2)
Loss of a job by your mother or father	20	(11.1)
End of a problem between your parents	19	(10.6)
Getting your first permanent job	18	(10.0)
Getting your first driver's license	18	(10.0)
Going on the first date of your life	18	(10.0)
A new adult moving into your home	17	(9.4)
Mother beginning to work outside the home	16	(8.9)
Outstanding personal achievement (special prize)	16	(8.9)
Hospitalization of a parent	15	(8.3)
The death of a grandparent	13	(7.2)
Getting a summer job	13	(7.2)
Becoming involved with drugs	13	(7.2)
Stopping the use of drugs	13	(7.2)
Move to a new school district	10	(5.6)
Being hospitalized for illness or injury	7	(3.9)
Becoming an adult member of a church	6	(3.3)
Hospitalization of a brother or sister	6	(3.3)
Appearance in a juvenile court	5	(2.8)
Deciding to leave home	5	(2.8)
Being responsible for an automobile accident	4	(2.2)
Suspension from school	4	(2.2)
Marital separation of your parents	3	(1.7)
Remarriage of a parent to a step-parent	3	(1.7)
Birth of a brother or sister	2	(1.1)
Death of a close friend	2	(1.1)
Being sent away from home	1	(0.6)
Divorce of your parents	1	(0.6)
Death of a parent	0	(0.0)
Death of a brother or sister	0	(0.0)
Graduating from high school	0	(0.0)
Being accepted in the college of your choice	0	(0.0)
Getting married	0	(0.0)
Getting pregnant or fathering a pregnancy	0	(0.0)

<sup>a</sup>For this study, the event "beginning your first year of senior high school" was eliminated because it was interpreted differently by various students.

APPENDIX G

Female/Male Similarities and Differences on the LES-A Events

Event	Females n=38		Males n=92		Calculated t Value	df (Pooled Variance Estimate)	Two- Tailed Probability
	Mean	SD	Mean	SD			
Death of a parent	0	0	0	0	0	178	--
Divorce of a parent	0.01	0.11	0	0	1.02	178	NS
Marital separation of parents	0.01	0.11	0.02	0.15	-0.54	166.25 <sup>a</sup>	NS
Death of grandparents	0.07	.25	0.08	0.27	-0.20	178	NS
Hospitalization of a parent	0.10	.31	0.07	0.25	0.90	178	NS
Remarriage of parent to a step-parent	0.03	0.18	0	0	1.79	178	NS
Birth of a brother or sister	0.01	0.11	0.01	0.10	0.03	178	NS
Hospitalization of a brother or sister	0.03	0.18	0.03	0.18	0.06	178	NS
Loss of job by a parent	0.08	0.27	0.14	0.35	-1.32	170.91 <sup>a</sup>	NS
Major increase in parents' income	0.15	0.36	0.13	0.34	0.33	178	NS
Major decrease in parents' income	0.18	0.39	0.17	0.38	0.14	178	NS
New problem between your parents	0.19	0.40	0.15	0.36	0.73	178	NS
End of problem between parents	0.11	0.32	0.10	0.30	0.34	178	NS
Change in father's job so he has more time at home	0.19	0.40	0.10	0.30	1.83	178	NS
New adult moving into your home	0.09	0.29	0.10	0.30	-0.16	178	NS
Mother beginning to work outside of home	0.05	0.21	0.13	0.40	-2.03	152.80 <sup>a</sup>	.004
Being told you are attractive by a friend	0.56	0.50	0.29	0.46	3.69	178	.000
Going on the first date of your life	0.17	0.38	0.03	0.18	3.10	122.73 <sup>a</sup>	.002
Finding a new dating partner	0.44	0.50	0.23	0.42	3.12	178	.002
Breaking up with a boy/girl friend	0.42	0.50	0.23	0.42	2.80	178	.006
Being told to break up with a boy/girl friend	0.20	0.41	0.08	0.27	2.50	149.35 <sup>a</sup>	.014
Start of a new problem between you and parents	0.35	0.48	0.26	0.44	1.33	178	NS
End of a problem between you and your parents	0.22	0.41	0.14	0.35	1.31	178	NS
Beginning high school	0.42	0.50	0.46	0.50	-0.49	178	NS
Moved to a new school district	0.06	0.23	0.05	0.23	0.07	178	NS
Failing a grade in school	0.16	0.37	0.09	0.28	1.47	163.43 <sup>a</sup>	NS
Suspension from school	0.02	0.15	0.02	0.15	0.04	178	NS
Recognition in sports or other activity	0.17	0.38	0.26	0.44	-1.47	178	NS
Getting your first driver's license	0.06	0.23	0.14	0.35	-1.91	159 <sup>a</sup>	NS
Being responsible for an automobile accident	0.01	0.11	0.03	0.18	-0.97	148.70 <sup>a</sup>	NS
Becoming an adult member of a church	0.06	0.23	0.01	0.10	1.70	119.38 <sup>a</sup>	NS
Being invited to join a social organization	0.18	0.39	0.13	0.34	.95	178	NS
Being invited by a friend to break the law	0.10	0.31	0.21	0.41	-1.95	168.41 <sup>a</sup>	.053
Appearance in juvenile court	0.02	0.15	0.03	0.18	-0.40	178	NS
Failing to achieve something you really wanted	0.38	0.49	0.27	0.45	1.48	178	NS
Getting a summer job	0.07	0.25	0.08	0.27	-0.20	178	NS
Getting your first permanent job	0.10	0.31	0.10	0.30	0.10	178	NS
Deciding to leave home	0.03	0.18	0.02	0.15	0.50	166.81 <sup>a</sup>	NS
Being sent away from home	0.01	0.11	0	0	1.02	178	NS
Being hospitalized for illness or injury	0.01	0.11	0.07	0.25	-1.91	124.62 <sup>a</sup>	NS
Death of a close friend	0.01	0.11	0.01	0.10	0.03	178	NS
Becoming involved with drugs	0.02	0.15	0.12	0.33	-2.58	129.02 <sup>a</sup>	.011
Stopping the use of drugs	0.08	0.27	0.07	0.25	0.37	178	NS
Finding an adult who respect you	0.33	0.47	0.18	0.39	2.24	178	.026
Outstanding personal achievement	0.09	0.29	0.09	0.28	0.09	178	NS
Becoming pregnant or fathering a child	0	0	0	0	0	178	--
Graduating from high school	0	0	0	0	0	178	--
Being accepted at the college of your choice	0	0	0	0	0	178	--
Getting married	0	0	0	0	0	178	--
Death of a brother or sister	0	0	0	0	0	178	--

<sup>a</sup> Separate variance estimate.



AN ABSTRACT OF THE THESIS OF GERALDINE WALKER GROVER

For the MASTER OF NURSING

Date of Receiving this Degree: June 10, 1983

TITLE: A STUDY OF THE RELATIONSHIP BETWEEN ADOLESCENT  
STRESS AND SCHOOL ABSENTEEISM.

APPROVED:

  
Mary McBride, M.S., Assistant Professor

The health of students is the focus of the nurse working in a school setting with a child and adolescent population. In addition to considering a student's stage and rate of growth and development, the school nurse assesses the level of stress being experienced by the student and his ability to cope and adapt. The outcome behaviors of illness and absence may be related to the number of stressors which the student is experiencing. The present study was undertaken to examine the relationship between the psychosocial stressor of life change and school absences.

The sample comprised 180 students in the 10th grade in Tigard High School. The questionnaire, the Life Event Scale for Adolescents (LES-A) (Coddington, 1981) was completed by the subjects in their health education classes during seven 10-minute periods throughout one school day. It measured the number of life change events for the previous three months. Absence rates for the subjects were measured for the ensuing three months. Absence data were collected from the computer used by the school district.

A Pearsonian  $r$  and a multiple regression analysis were computed using the Statistical Programs for the Social Sciences (SPSS). Overall, there were no differences between the sexes on scores and number of events reported. However, there was a difference,  $t(160.07) = 2.60$ ,  $p < .01$  in the absence rates between males and females. The study found a weak relationship, ( $r^2 = .044$ ) between the total score on the LES-A and absence rates. Of the three subscores, i.e., family, undesirable, and desirable, the undesirable score was the most predictive of absence,  $R^2 = .055$ .

These findings present important implications for nursing. Recommendations for further study were made.