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A STUDY OF RELATIONSHIPS BETWEEN SELECTED LIFE EVENTS AND SCHOOL PERFORMANCE OF EIGHTH AND NINTH GRADE STUDENTS

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A STUDY OF RELATIONSHIPS BETWEEN SELECTED LIFE EVENTS AND SCHOOL PERFORMANCE OF EIGHTH AND NINTH GRADE STUDENTS

By

John Patrick O'Meara

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ABSTRACT

A STUDY OF RELATIONSHIPS BETWEEN SELECTED LIFE EVENTS AND SCHOOL PERFORMANCE OF EIGHTH AND NINTH GRADE STUDENTS

By

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PURPOSE

The purpose of this study was to investigate possible relationships between life events and school performance of eighth and ninth grade students. The study was designed to answer two questions: (1) Are there any relationships between recent life changes of students and their performance in school? and (2) If there are relationships, what specific factors are involved?

A review of the literature of life change research indicates that life changes are correlated with illnesses of adults and children, and performance of adults and college students. While there are studies with children dealing with personality variables and behavior including absences, there are no studies dealing with school performance such as achievement and school behavior as measured according to this study.

METHODOLOGY

The sample (n = 271) for this study consisted of eighth and ninth grade students at Otto Junior High School, randomly selected according to grade level, sex and parental approval. The life changes of the students were measured by a modified form of Coddington's Life Event Record for Junior High School. The Life Change Units were correlated with six performance variables: grade point average, citizenship grade average, absences, demerit points on the Conduct Code, total reading scores and total mathematics scores on the Stanford Achievement Test. The performance variables were calculated according to change (gain) scores between the last school year's performance (1975) and the previous school year's performance (1974).

Statistical analyses to test the hypotheses were simple correlations, multiple correlations, and analysis of variance. Hypotheses were tested for the total sample but correlations by grade and partial correlations were included to further explore the relationships.

FINDINGS

The findings for the total sample were as follows:

1. There was a significant negative correlation between Life Change Units and change in grade point average.
2. There was a significant negative correlation between Life Change Units and change in citizenship grade average.

3. No significant positive correlation was found between Life Change Units and change in number of absences.
4. There was a significant positive correlation between Life Change Units and change in the number of demerit points.
5. No significant correlation was found between Life Change Units and change in total reading scores (SAT).
6. There was a significant negative correlation between Life Change Units and change in total mathematics scores (SAT).
7. There was a significant multiple correlation between Life Change Units and year two variables controlling year one variables.
8. No significant difference was found in Life Change Units between eighth and ninth grade students.
9. No significant difference was found in the Life Change Units between males and females.

The results of the study support the thesis that there is a relationship between life changes of eighth and ninth grade students and school performance. A significant inverse relationship was found for the total sample between life changes and a change in grade point average, citizenship grade average, demerit points on the point system and total mathematics test scores. That is, for the total sample, students with higher life changes tend to perform lower on the four performance variables tested. When the total sample was subdivided by grade, the ninth grade students had no significant correlations, whereas the eighth grade students had significant

correlations. The significant correlations for the total sample can probably be attributed to the stronger correlations between the variables in the eighth grade subgroup.

DEDICATION

To my wife, Nan, with love for everthing she is and has done.

To my children Patrick, Catherine, and John for their special kindness, understanding, and help.

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Chapter 1

THE PROBLEM

INTRODUCTION

The accelerating change in our society challenges the individual to cope with the continuous occurrences in his life. Toffler refers to man's adaptation to the endlessly accelerating change in our society as future shock; that is, the distress, both physical and psychological, that arises from an overload of man's adaptive system.[1]

Man's adaptation to change is complex, but increasingly so during adolescence. As Martin writes, adolescence is a hard age to understand, for it is characterized by rapid change and confusion. While Martin basically agrees with Friedenberg, Holt and Silberman that schools are perceived by students as irrelevant to the real needs of students and repressive of individuality, he disagrees with this perception concerning early adolescents. He believes that the early adolescent values school as the place "where it's at" with regard to friends, teachers, work and activities.[2]

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[1]Alvin Toffler, Future Shock (New York: Random House, 1970), p. 326.

[2]Edward C. Martin, "Reflections on the Early Adolescent in School," Twelve to Sixteen: Early Adolescence, eds. Jerome Kagan and Robert Coles (New York: W. W. Norton and Company, Inc., 1972), pp. 180 and 189.

The adolescent is personally involved with school. He must continually perform while adapting to school and at the same time cope with life changes in his environment.

His school performance is measured but his personal reactions to life changes are not recorded or dealt with specifically by anyone in the school setting. Yet the knowledge of life changes and how these changes influence performance in school is an important area of study for teachers as well as for a clearer understanding of youth in a changing world.[3]

PURPOSE

The purpose of this study is to investigate possible relationships between life changes in childrens' experiences and childrens' school performance. The life changes include events with positive as well as negative connotations; for example, a move to a new school district may be good or bad for a given child. But in either case, some readjustment is required.[4] Performance in school refers to academic achievement, citizenship grades, absences, demerit points on the Point System and scores on the Stanford Achievement Test.

The study is designed to investigate two questions: (1) Are there any relationships between recent life changes of students and

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[3]Toffler, Future Shock, pp. 398-403.

[4]R. Dean Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children--II A Study of A Normal Population," Journal of Psychosomatic Research, XVI (June, 1972), 205.

their performance in school? (2) If there are relationships, what are the specific factors which are involved? In sum, this study is designed to investigate the possible relationships between life events of a child and his performance in school.

NEED FOR THE STUDY

With the acceleration of change in our society, it is important that man continually adapt and cope with life's changes. The significance of change for the individual is exemplified by Combs and Snygg who suggest that the "mere fact of living in a dynamic changing society imposes upon the individual a necessity for change."[5] Maslow points out that man must remain independent in dealing with the environment with its hard knocks, blows, deprivations, frustrations, and the like. Man must manage to get along by a complex combination of inner autonomy and outer acceptance of the world.[6]

In regard to change and its relationship to education, Combs believes the primary goal of education is to produce a truly adequate, healthy person, whose characteristics are positive view of self, identification with others and acceptance of openness to experience.[7] Similarly, Rogers feels the individual with the best education emerges as the one who has experienced optimal psychological growth

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[5]Arthur W. Combs and Donald Snygg, Individual Behavior: A Perceptual Approach to Behavior (New York: Harper and Row, 1959), p. 157.

[6]Abraham H. Maslow, Motivation and Personality (2d ed.; New York: Harper and Row, Publishers, Inc., 1970), pp. 162 and 174.

[7]Combs, Individual Behavior, pp. 365-366.

--a person functioning freely in the fullness of potentialities. Accordingly a person fully functioning is one who is realistic, socialized, creative, and one who is ever changing, and developing.[8] Also, Maslow considers psychological health as self-actualization--acceptance of self, full functioning, availability of human and personal essence, minimal presence of ill health or diminution of the basic human and personal capacities.[9]

Acceleration of change places strain on individuals and makes it difficult for man to cope. Rollo May calls this, the time in which we live, an age of anxiety.[10] Singer states that problems one faces during times of explosive change include our ability to be properly oriented to the future in personal terms.[11] To express the severity of the acceleration of change in our society, Toffler uses the term "future shock," to describe the shattering stress and disorientation that is induced in individuals by subjecting them to too

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[8]Carl R. Rogers, Freedom to Learn (Columbus: Charles E. Merrill Publishing Company, 1969), p. 295.

[9]A. H. Maslow, "Some Basic Propositions of a Growth and Self-Actualization Psychology," Perceiving, Behaving, Becoming: A New Focus for Education, ed. A. W. Combs (Washington, D.C.: Association for Supervision and Curriculum Development, NEA, 1962), p. 36.

[10]Rollo May, Man's Search for Himself (New York: W. W. Norton and Company, Inc., 1967), p. 30.

[11]Benjamin D. Singer, "The Future-Focused Role-Image," Learning For Tomorrow: The Role of the Future in Education, ed. Alvin Toffler (New York: Random House, 1974), p. 31.

much change in too short a period of time.[12] Accordingly, future shock is personal and it has both psychological and social consequences in man.

Moreover, man's adjustment to life's changes is significantly associated with illness; for studies with adults point out the relationship of life stress or emotional stress to illness. The wide variety of illnesses has been related to a large number of life changes--personal, family, marital, occupational, recreational, economic, social, interpersonal and religious changes.[13] It is clear that there is a greater risk of developing mental as well as physical illness following a period of great psychological stress than following a period of less stress.[14] Studies by Holmes and Rahe point out the relationship of life stress or emotional stress to illness in adults.

Coddington has developed a method for measuring the significance of life events for children.[15] Coddington's study assumes "that health depends on the organism's capacity to maintain some sort

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[12]Toffler, Future Shock, p. 12.

[13]Richard H. Rahe, "Subjects' Recent Life Changes and Their Near-Future Illness Reports," Annals of Clinical Research, XIV (October, 1972), pp. 250-265.

[14]Ransom J. Arthur, An Introduction to Social Psychiatry (Baltimore: Penguin Books, Inc., 1971), p. 90.

[15]R. Dean Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children I--A Survey of Professional Workers," Journal of Psychosomatic Research, XVI (February, 1972), pp. 7-18.

of equilibrium between his internal milieu and the external environment."[16] Although Coddington believes his concept is etiologically significant in the case of physical illness, this study is designed to deal with life changes that commonly occur in the lives of children and their possible relationship to a child's performance in the junior high school.

Specifically this study focuses on junior high students' reaction to stress. Coddington underlines the importance of such research when he refers to the extensive readjustment of adolescents to life events. That is, the major increase in such readjustment occurs at ages 12-14 which include the advent of puberty and the familiar adolescent turmoil.[17]

Eisenberg calls adolescence a "critical period" in development because it is both a time of rapid and profound change in the organism and a time providing the necessary, but not sufficient, conditions for full maturation in adulthood.[18] Although Hall's theory that adolescence is a time of "storm and stress" seems no longer accurate, Stone and Church believe that the manifestations of adolescence are natural and inevitable and much of what the adolescents are and become results from how parents and society treat

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[16]Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children--II A Study of a Normal Population," p. 212.

[17]Ibid.

[18]Leon Eisenberg, "A Developmental Approach to Adolescence," Adolescent Behavior and Society: A Book of Readings, ed. Rolf E. Muuss (New York: Random House, 1971), p. 32.

them. It is a period when the individual is no longer a child but is not yet an adult.[19] Jersild says the fact that adolescents typically have problems is more significant than the question as to whether their lives are more stressful than older or younger persons.[20]

While adolescence is a unique period, Kagan suggests the need for more intensive study of early adolescence is necessary. Kagan argues that the emergence of cognitive competence may be dependent on biological change that is influenced by experiences that confront the adolescent.[21] Blos also feels that the initial stage of adolescence presents the most crucial period of adolescent development, for the beginning stage of adolescence determines the future course of adolescence.[22]

The period of adolescence is thus a critical time in the developmental process. Coincidentally, massive change facing youth is also critical. Coddington points out that change is an integral part of the adolescent's adaptive capacities. He also agrees with Toffler's concept that young people of today are faced with many

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[19]L. Joseph Stone and Joseph Church, Childhood and Adolescence. A Psychology of the Growing Person (New York: Random House, 1973), pp. 425-432.

[20]Arthur Jersild, The Psychology of Adolescence (2d ed.; New York: The Macmillan Company, 1963), p. 17.

[21]Jerome Kagan, "A Conception of Early Adolescence," Twelve to Sixteen: Early Adolescence, eds. Jerome Kagan and Robert Coles (New York: W. W. Norton and Company, Inc., 1972), pp. 90-105.

[22]Peter Blos, "The Child Analyst Looks at the Young Adolescent," Twelve to Sixteen: Early Adolescence, eds. Jerome Kagan and Robert Coles (New York: W. W. Norton and Company, Inc., 1972), p. 55.

problems and decisions that adults over 40 did not have to face during adolescence. His study is an attempt to gain some understanding of the amount of social readjustment childrens' environment requires.[23]

The acceleration of change during the crucial time of adolescence plays an important part in the child's experience in school. Silberman argues that teachers should show concern for the student as he faces the problems of becoming, of confronting life situations, of interacting with others, of reflecting, forming, choosing, and struggling to be.[24] Kelley, too, in defending youth urges teachers to accept the young as worthy and valuable.[25]

Toffler in speaking of the accelerative thrust of change, states that tomorrow's individual will have to cope with even more hectic change.

> For education the lesson is clear: its prime objective must be to increase the individual's "cope-ability"--the speed and economy with which he can adapt to continual change.[26]

In regard to research in education concerning life changes, Carranza and Hoskins dealt with teachers and they found significant correlations with the Holmes and Rahe scale in regard to teacher

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[23]Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children--II A Study of A Normal Population," p. 212.

[24]Charles E. Silberman, Crisis in the Classroom. The Remaking of Americans Education (New York: Random House, 1970), p. 505.

[25]Earl C. Kelley, In Defense of Youth (New Jersey: Prentice-Hall, Inc., 1962), p. 145.

[26]Toffler, Future Shock, p. 403.

performance.[27] Furthermore, in regard to academic performance, Harris found significant correlation between high life change and academic performance on the college level while Bassetti found only significant correlations in regard to academic performance and its relationship to dogmatism.[28]

In a study of tenth, eleventh and twelfth graders, Jenks, using Coddington's Life Event Record found a significant relationship between students' life change units and their self-concept.[29]

In sum, the acceleration of change places stress on individuals and makes it difficult for man to cope. The adolescent must also cope with change at a critical period in his developmental process. Since life changes can be measured and have been correlated to teachers' and college students' performance and high school

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[27]Elihu Carranza, "A Study of the Impact of Life Changes on High School Teacher Performance in the Lansing School District as Measured by the Holmes and Rahe Schedule of Recent Experience" (unpublished Doctoral dissertation, Michigan State University, 1972).

[28]Paul White Harris, "The Relationship of Life Change to Academic Performance among Selected College Freshmen at Varying Levels of College Readiness" (unpublished Doctoral dissertation, East Texas State University, 1972); and Roger Lee Bassetti, "Life Change, Trait Anxiety, Dogmatism, and Academic Performance of College Freshmen" (unpublished Doctoral dissertation, East Texas State University, 1973).

[29]Letitia Chambers Jenks, "Change and the Individual: The Relationship Between the Amount of Change in the Life of a Student and His Self-Concept" (unpublished Doctoral dissertation, Oklahoma State University, 1973).

students' self concept, this study assumes that life changes can also be correlated with junior high school students' performance.

HYPOTHESES

In order to deal with the theory presented and the questions stated above, the following hypotheses have been developed:

Hypothesis 1: There will be a significant negative correlation between Life Change Unit scores and change in achievement levels as measured by the students' grade point averages.

Hypothesis 2: There will be a significant negative correlation between Life Change Unit scores and change in citizenship behavior as measured by the students' citizenship grade averages.

Hypothesis 3: There will be a significant positive correlation between Life Change Unit scores and change in the number of absences as measured by the students' attendance records.

Hypothesis 4: There will be a significant positive correlation between Life Change Unit scores and change in the number of demerit points on the Point System as measured by the Conduct Code.

Hypothesis 5: There will be a significant negative correlation between Life Change Unit scores and change in Total Reading scores as measured by the Stanford Achievement Test (SAT).

Hypothesis 6: There will be a significant negative correlation between Life Change Unit scores and change in Total Mathematics scores as measured by the Stanford Achievement Test (SAT).

Hypothesis 7: There will be a significant multiple correlation between Life Change Unit scores and the year two variables controlling for the year one variables.

Hypothesis 8: There will be no significant difference in Life Change Unit scores between eighth and ninth grade students.

Hypothesis 9: There will be no significant difference in Life Change Unit scores between male and female students.

DEFINITION OF TERMS

The following terms will help clarify the meaning and allow for consistency throughout the study:

1. Social readjustment is a measure of the intensity and length of time necessary to accommodate to a life event. It attempts to quantify the social and psychological importance of various events in the lives of children.

2. Life event is an occurrence that is socially acceptable and desirable, or negative, that requires coping, adaptation or readjustment. Life event and life change are synonymous.

3. Life Event Record is a pencil and paper questionnaire comprising items descriptive of occurrences or life events as they are related to age: Preschool, Elementary, Junior High and Senior High.

4. Life Change Unit is a value or weighted number assignment for each of the life change items on the Life Event Record as they are related to age: Preschool, Elementary, Junior High and Senior High.

5. Social Readjustment Rating Scales consist of the value and rank order of the life change items according to social readjustment.

6. Citizenship Grade Average is the average of the grades a student receives for his behavior in the classroom at the end of the marking period (1 = excellent; 5 = unsatisfactory).

7. Conduct Code is a specifically written procedure and set of rules which lists offenses or incidents that can occur within a specific school intended for the purpose of helping pupils adjust to reasonable standards and structures in the community and the school and in conjunction with the school system's discipline code.

8. Demerit Points are the numerical equivalent of a specific offense for an incident covered by the Conduct Code, such incidences ranging from gross misconduct to building infractions, i.e., tardiness.

9. Student performance as measured in this study relates to a student's social and academic adjustment to school.

10. Stanford Achievement Test (SAT) is a paper and pencil test which is a series of eight achievement tests, designed to measure the important knowledge, skills, and understandings commonly accepted as desirable outcomes of the major academic areas of a school's curriculum.

11. Total Reading Score is the average of the scores from the Reading Comprehension and Vocabulary Tests of the Stanford Achievement Test (SAT).

12. Total Mathematics Score is the average of the scores from the Mathematics Concepts, Computation and Applications Tests of the Stanford Achievement Test (SAT).

LIMITATIONS

The population for this study was composed of eighth and ninth grade students at C. W. Otto Junior High School. A simple random sample from the population was obtained which included students by grade level and sex. Parental permission was obtained for the students who participated in the study. No effort was made to represent in the sample students by race, ethnic group, or religion.

Since the study is designed to show possible relationships between the students' performance and life change, it does not seek cause and effect relationships. Life changes in this study are determined and therefore defined by the Life Event Record which has been modified for this study. Furthermore, performance in school refers to (1) grades, (2) citizenship grades, (3) attendance, (4) Demerit points on the Point System, and (5) scores on the Stanford Achievement Test.

The Life Event Record documents change in a person's ongoing adjustment in the central area of concern in his life. It does not measure longstanding life difficulties such as specific psychological problems, nor does it measure anticipated life stresses. Thus, the questionnaire deals with one measurable aspect (recent life changes) of a person's life in determining life changes. Hence, any consideration of the results or findings of this study must be consistent with its purpose and scope.

ASSUMPTIONS

In regard to the characteristics of the sample, nature of the instrument and the theory underlying this study, the following assumptions are presented:

1. The Life Event Record is both valid and reliable.

2. The Life Event Record as modified is both valid and reliable.

3. The data concerning the performance of the students do not deviate from their normal behavior patterns; i.e., 1973-75 years' student data truly represent each of the individuals' normal pattern of behavior.

4. The answers of the students on the Life Event Record are both honest and accurate.

5. The time or date of occurrence of a specific event will not affect the relationships of performance data.

6. Health of the individual depends on the individual's capacity to maintain some sort of equilibrium between his internal milieu and the external environment.

7. Life changes or recent life occurrences in a child's experiences influence the adjustment of a child in school.

8. Findings of this study will benefit teachers and educators in understanding how life events influence the junior high students' adjustment in school.

ORGANIZATION OF THE STUDY

In Chapter I, the purpose, need for the study, hypotheses and definitions of the study have been stated. A description of the limitations and of the assumptions have also been presented. The remainder of the study is presented in four chapters. Chapter II contains a review of the literature dealing with man's adjustment to change, life change research, adolescent development and the implications of change and life changes on the adolescents' performance in school. Chapter III presents the procedure and the design of the study. The population, sample and instruments and other procedural matters are provided. Chater IV contains the analysis of the data as related to the hypotheses and the findings of the study. Chapter V presents a summary of the study, the findings and recommendations for future research.

Chapter 2

REVIEW OF RELATED LITERATURE

INTRODUCTION

This chapter contains a review of literature concerning change and life changes and how they affect the individual. The review is divided into six sections: (1) change and how it influences man's becoming, (2) life change research concerning adults, (3) life change research concerning children, (4) life change studies dealing with children, college students and teachers in relation to school performance and personal variables, (5) the adolescent and his growth and development and, (6) the implication of change, life changes and the nature of the adolescent as they relate to educational achievement.

CHANGE AND BECOMING

Change is basic to man's way of life.[1] Change, according to Dubos, "is an essential condition of life."[2] Man must continually adapt to the changes in his environment. Rapid change affects man's

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[1]Earl C. Kelley and Marie I. Rasey, Education and the Nature of Man (New York: Harper and Brothers, Publishers, 1952), p. 16.

[2]Rene Dubos, "Recycling Social Man," Saturday Review World (August 24, 1974), p. 106.

personal development. Meeting change and learning to cope with it is an important part of an individual's personal growth. Having a balance between man's inner nature and the changing world is crucial to his development.

When man adapts to change, he is moving forward or is in progress. But progress involves risks. And one of the risks is man not adjusting fast enough to new events and situations.[3] In essence, the well-being of man is related to his response to rapid changes. For Dubos writes:

> Any change in the environment demands new adaptive reactions and disease is the consequence of inadequacies in these adaptive responses. The more rapid and profound the environmental changes, the larger the number of individuals who cannot adapt to them rapidly enough to maintain an adequate state of fitness and who, therefore, develop some type of organic or psychotic disease.[4]

The thesis of Future Shock is that

> . . . there are discoverable limits to the amount of change that the human organism can absorb, and that by endlessly accelerating change without first determining these limits, we may submit masses of men to demands they simply cannot tolerate.[5]

A major factor of change which Toffler refers to as the super-industrial revolution is acceleration. The effects are personal, for

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[3]René Dubos, Man Adapting (New Haven: Yale University Press, 1968), p. 368.

[4]Francis J. Braceland, "Emotional Problems of Contemporary Life," Mental Health and Achievement, eds. E. Paul Torrance and Robert D. Strom (New York: John Wiley and Sons, Inc., 1965), p. 34.

[5]Alvin Toffler, Future Shock (New York: Bantam Book, 1970), p. 326.

he says events are occurring so fast that we forget them before we have had a chance to learn from them.[6]

Change is a vital part of man's life, for Kelley states: "Life, then, really means process, movement, flux."[7] For him the relationship between change and man's personal development can be expressed in terms of becoming. Man is continually becoming in the world of change for he never really arrives but is in the process of becoming. Kelley uses the term full-functioning to describe man's relation to the world for it implies movement and becoming.[8] Specifically the full-functioning person is one who accepts himself, thinks well of others and sees himself in the process of becoming. Such a person is happy in the world of change and becoming, for it places man in an active and creative role.[9]

Regarding change, Fromm feels man's future is heading toward a dehumanized society since human thought is being replaced by the thinking of the machine.[10] Fromm agrees with Mumford when he

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[6]"Toffler Speaks on Futurism in Politics," The Futurist, IX (October 1975), 228.

[7]Kelley and Rasey, Education and the Nature of Man, p. 20.

[8]Ibid.

[9]Earl C. Kelley, "The Fully Functioning Self," Perceiving, Behaving, Becoming: A New Focus for Education, ed. Arthur W. Combs (Washington, D.C.: Association for Supervision and Curriculum Development, National Education Association, 1962), p. 10.

[10]Erich Fromm, The Revolution of Hope: Toward a Humanized Technology (New York: Harper and Row Publishers, 1968), p. 26.

characterizes our times in terms of the "megamachine" in relating the past to the future. That is, society is so totally organized that it functions like a machine and man is considered as its parts.[11] Similarly, Bennis considers bureaucratic organization as hampering man's development; for it does not allow for personal growth and development of mature personalities.[12] Fromm urges plans for a new humanized system so "that it serves the purpose of man's well being and growth, or in other words, his life process."[13] Fromm states "man's main task in life is to give birth to himself, to become what he potentially is."[14] To accept the human self, to know oneself and to have confidence in man's capacity for goodness and productiveness is basic to human nature.[15]

The process of becoming is realizing all one's possibilities. It means man has the potential to become human at all stages of development. Allport also considers becoming to be basic to human nature. He emphasizes the capacity of individuation--"the formation

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[11]Ibid., pp. 29-30.

[12]Warren G. Bennis, "Beyond Bureaucracy," American Bureaucracy, ed. Warren G. Bennis (New Brunswick, New Jersey: Transaction Books, distributed by E. P. Dutton and Co., Inc., 1970), pp. 5-6.

[13]Fromm, The Revolution of Hope, p. 94.

[14]Erich Fromm, Man for Himself: An Inquriy into the Psychology of Ethics (New York: Holt, Rinehart, and Winston, 1947), p. 237.

[15]Ibid., p. 7.

of an indivdual style of life that is self-aware, self-critical and self-enhancing."[16]

Living in a changing world requires changes in man. Man is continually maintaining and improving his perceived self. For a basic human need is the development of an adequate self--"a self capable of dealing effectively and efficiently with the exigencies of life both now and in the future."[17]

The demands of daily life have an impact on the individual. Pressures imposed by family life, friends and society as a whole have an influence on the individual. Every life situation which a person faces has an impact.[18] For example, Bennis claims that major changes occur every three or four years.[19] Accordingly he writes that the family is influenced by deep experiential differences not only between parents and children, but between the children themselves. Bennis states:

> Brothers and sisters three years apart are totally different people, who have been forged by new experiences which create intra-generational conflicts through these experiential chasms.[20]

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[16]Gordon W. Allport, Becoming: Basic Considerations for a Psychology of Personality (New Haven: Yale University Press, 1955), p. 27.

[17]Arthur W. Combs and Donald Snygg, Individual Behavior: A Perceptual Approach to Behavior (New York: Harper and Row Publishers, 1959), p. 45.

[18]Ibid., p. 92.

[19]Warren G. Bennis, "Human Society in the Seventies," Personnel Dialogue for the Seventies, Warren Bennis, et al. (Public Personnel Association, 1971), p. 5.

[20]Ibid.

While Combs believes important events in the family such as births, deaths, and even great periods of happiness or unhappiness are affecting the individual, commonplace experiences may have deepest and most profound effects upon the development of the self. For Combs states:

> Indeed, it may even be true that the traumatic events in our lives were only traumatic because of their relationship to the more fundamental and basic feelings about self acquired in the prosaic humdrum of daily life in a family setting.[21]

According to Combs, in order to live in our modern society, man must adapt and change his behavior; anything less invites danger.[22] Rapid change can be a threat. These threats could be a change in jobs or loss of a loved one.[23] To Combs the maintenance of the phenomenal self--the unique ways of regarding self--is life's main task.[24]

The way man deals with his relationships to the changing world is important for his mental health and his very existence. For Combs the term "adequate person" describes proper adjustment and a way of handling life events. He characterizes an adequate person in the following four ways: (1) a positive view of self, (2) the identification of self to others, (3) the openness to and acceptance of experience, and (4) a rich and extensive perceptual field which is

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[21]Combs and Snygg, Individual Behavior, p. 135.

[22]Ibid., p. 165.

[23]Ibid., p. 181.

[24]Ibid., pp. 45 and 126.

available when needed. The qualities of an adequate person "provide the basis for great personal strength."[25]

Maslow's single goal in life is realizing one's potentialities, "that is to say, becoming fully human, everything that the person can become."[26] From Maslow's theory of growth and motivation, he considers becoming from the standpoint of satisfying unmet needs. To him healthy people have sufficiently gratified their basic needs. Needs are basic to human nature. Deficiency of some basic need like empty holes must be filled up for good mental health.[27] While man has the capacity for becoming and using his potential, to Maslow, capacities are also needs.[28]

Since basic needs are common to all mankind, they may be considered as shared values. Yet, these needs or values are related to each other in a hierarchical and developmental way. The basic needs may be considered as simply steps along the path to becoming, or as Maslow says self-actualization--the highest need, the healthy, individual.[29]

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[25]Arthur W. Combs, "A Perceptual View of the Adequate Personality," Perceiving, Behaving, Becoming: A New Focus for Education, ed. Arthur Combs (Washington, D.C.: Association for Supervision and Curriculum Development, National Education Association, 1962), pp. 51-62; see also Combs and Snygg, Individual Behavior, pp. 240- 48.

[26]Abraham H. Maslow, Toward a Psychology of Being (New York: D. Van Nostrand Company, 1968), p. 153.

[27]Ibid., pp. 22 and 25.

[28]Ibid., p. 201.

[29]Ibid., pp. 151-53.

Maslow states that when one basic need is satisfied the individual moves to another higher need. The hierarchical needs of Maslow are the following: (1) physiological needs are based on the physical and biological needs, (2) safety needs deal with security, stability and protection, (3) belongingness and love needs involve love (both the giving and receiving) and affection with a loved one and people in general, (4) esteem needs satisfy the desire for strength, achievement, and reputation or prestige, and (5) the need for self-actualization involves the desire to become actualized in what one is potentially--to become everything that one is capable of becoming.[30]

In Maslow's view, becoming is a life process; accordingly, when one has become, one is self-actualized. To be self-actualized means the past exists now but so does the future in the form of ideals, hopes, and unrealized potentials. The future plays an important part in man's becoming, for with no future man is reduced to hopelessness and emptiness.[31]

Murphy refers to man's development in three ways--three human natures. The first human nature is the raw or original nature which develops with the aid of the second human nature, man's cultural heritage. This second human nature allows for the acquiring of intellectual tools whereby he can break from the cultural mold and transcend from his human nature by the freeing of the intellect

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[30]Abraham H. Maslow, Motivation and Personality (New York: Harper and Row Publishers, 1970), pp. 35-47.

[31]Maslow, Toward a Psychology of Being, pp. 202-14.

which is the third human nature. Man's need to understand helps him to move forward and to make sense out of the world which, to Murphy, is important for dealing with the future and the changing world. If the world is motivated by the will to understand, the world could be controlled by man so that man could discover his potentialities and fulfill his inner nature.[32]

Jersild places emphasis on the acceptance of self which allows one to accept others. For man should develop his potential for the richness of living and the capacity to enjoy life.[33]

Becoming is important to Rogers. For to have psychological health one must become--become a fully functioning person. Rogers describes a fully functioning person as being open to experience, living as a process, and trusting in one's experiencing. Rogers states: "It involves the stretching and growing of becoming more and more of one's potentialities. It involves the courage to be."[34]

The ideas of May on becoming involve the three stages of consciousness of one's self. First, there is the innocence stage before the consciousness of the self is born. Next, the rebellion

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[32]Gardner Murphy, Human Potentialities (New York: Basic Books, Inc., 1958), pp. 15-19, 243.

[33]Arthur T. Jersild, In Search of Self: An Exploration of the Role of the School in Personality Self Understanding (New York: Teachers College Press, 1952), pp. 10 and 41.

[34]Carl R. Rogers, "Toward Becoming A Fully Functioning Person," Perceiving, Behaving, Becoming: A New Focus for Education, ed. Arthur W. Combs (Washington, D.C.: Association for Supervision and Curriculum Development, National Education Association, 1962), pp. 29-32.

stage is when one is becoming free to establish some inner strength in one's own right; for example, ages two to three or adolescents. Thirdly, there is the ordinary consciousness of self in which one makes decisions with some responsibility.[35] Lastly but often rarely there is the creative consciousness of self which means:

> that at some instant we have been able to see truth unclouded by our own prejudices, to love other persons without demand for ourselves, and to create in the ecstasy that occurs when we are totally absorbed in what we are doing. . . .[36]

To Frankl mental health is the gap between what one is and what one should become. Man's neurosis, at the present day according to Frankl can be described as a form of nihilism; that is, the contention that being has no meaning.[37] Frankl considers the prime motivational force in man which is also future oriented is "will to meaning"--"the striving to find meaning in one's life."[38] Man is in control of his own self for according to Frankl, "Man does not simply exist, but always decides what his existence will be, what he will become in the next moment."[39]

In sum, this section illustrates the relationship between change and becoming. It describes how man must adapt to the rapidly

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[35]Rollo May, Man's Search for Himself (New York: W. W. Norton and Company, Inc., 1953), p. 119.

[36]Ibid., pp. 121-22.

[37]Victor E. Frankl, Man's Search for Meaning: An Introduction to Logotherapy (New York: Pocket Books, Simon and Schuster, Inc., 1973), pp. 166 and 204.

[38]Ibid., p. 154.

[39]Ibid., pp. 206-7.

changing world, for change affects his total being. Man, himself, must be in the process of change--a process of becoming. In other words, man must move from what he is to what he potentially is. The well-being of man is dependent on how he adapts to the changes in his life.

The next section will show a way of measuring changes in an individual's life and their impact on that individual.

LIFE EVENTS AS RELATED TO ADULTS

Rapid change makes it necessary for man to continually adapt to life's circumstances. The changes in one's life involve many aspects of living--family, occupation, and one's interrelationships with others. While it is difficult to measure qualitatively the impact of change on the individual, a questionnaire, the Schedule of Recent Experience, has been developed which measures various life events as to the amount of social-psychological adjustment required by an individual to these events. This section reviews the literature concerning (1) the Schedule of Recent Experience, (2) validity and reliability of the Schedule of Recent Experience, (3) the Recent Life Changes Questionnaire, (4) life events and illness, and (5) the controversy surrounding the life change research.

The Schedule of Recent Experience

The Schedule of Recent Experience, which was developed by Holmes and Rahe for adults, quantitatively measures an individual's adjustment to life events. It is a questionnaire of forty-three

life events that pertain to family, marriage, occupation, economics, group and peer relationships, education, religion, and health. While the events may be desirable or undesirable, they are associated with some adaptive or coping behavior on the part of the individual.[40]

To determine the amount of an individual's adjustment for each item, subjects rated each item as to the relative degree of readjustment. A Social Readjustment Rating Scale (SRRS) was developed by obtaining a geometric mean score for the subjects' weights given to each item. These weights or values are called Life Change Units (LCU) and when summed represent the amount of readjustment required by an individual to stressful life events. The correlation for the group characteristics rating the items was 0.90 except for race which was 0.82. The Spearman's rank order correlation was almost identical.[41]

Validity and Reliability of the Schedule of Recent Experience

In a reliability study by Mendels and Weinstein, no significant differences were found for any of the groups which were divided according to those who were given the Schedule of Recent Experience or modifications. The authors generally agree with the usefulness of

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[40]Thomas H. Holmes and Richard H. Rahe, "The Social Readjustment Rating Scale," Journal of Psychosomatic Research, XI (August, 1967), 213-18.

[41]Ibid.; see also Minoru Masuda and Thomas H. Holmes, "Magnitude Estimations of Social Readjustments," Journal of Psychosomatic Research, XI (August, 1967), 219-25.

the instrument. However, the variability of the intra-group correlations suggest that it would be more useful in studying groups rather than individuals.[42]

Ruch and Holmes concluded from their replication study that there was a general value concensus for the seriousness of life events for two groups--late adolescent sample and the adult sample used by Holmes and Rahe. In addition, the two scaling methods, the one used by Holmes and Rahe and one using a paired comparison, were similar.[43]

In a Modified Social Readjustment Rating Scale for athletes, a Spearman's rank order correlation for 80 athletes was .85. This study also concluded that the questionnaire was reliable and consistent over time when it was given nine months later.[44]

Hough, Fairbanks, and Garcia regard the Holmes and Rahe questionnaire as laudable and, according to their exploratory study, feel it deserves more attention in the field of sociology but do raise questions concerning: (1) the construction of the instrument, (2) the problems of analyses, and (3) the problems of cultural variance.[45]

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[42]J. Mendels and N. Weinstein, "The Schedule of Recent Experiences: A Reliability Study," Psychosomatic Medicine XXXIV (November-December, 1972), 527-31.

[43]Libby O. Ruch and Thomas H. Holmes, "Scaling of Life Change: Comparison of Direct and Indirect Methods," Journal of Psychosomatic Research XV (June, 1971), 221-227.

[44]Thomas H. Holmes and Minoru Masuda, "Life Change and Illness Susceptibility," Stressful Life Events, eds. Barbara Snell Dohrenwend and Bruce Dohrenwend (New York: John Wiley and Sons, Inc., 1974), p. 55.

[45]Richard L. Hough, Dianne Timbers Fairbanks, and Alma M. Garcia, "Problems in the Ratio Measurement of Life Stress," Journal of Health and Social Behavior XVII (March, 1976), 70-82.

Differences between ethnic groups were found in the rating of several life event items of the Holmes and Rahe questionnaire by Rosenberg and Dohrenwend. With a sample of 72 percent white and the remainder being Asian, Black, and Hispanic ethnic groups, the ratings were affected by ethnicity and by the interaction of experience and ethnicity.[46]

Some comparative cross-cultural studies indicated a relatively high correlation for the rank ordering of life events, but there were differences in the amount of readjustment for the items due to cultures and living conditions. This was true for comparative studies between Japanese and Americans, West Europeans and Americans, and Swedes and Americans.[47]

In a comparative study of Black, Mexican, and White Americans, Komaroff and others found that all these groups ranked the life change items in a similar manner. However, the weights given to the life change items by Blacks and Mexican Americans differed significantly

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[46]Emily J. Rosenberg and Barbara Snell Dohrenwend, "Effects of Experience and Ethnicity on Ratings of Life Events as Stressors," Journal of Health and Social Behavior XVI (March, 1975), 127-29.

[47]Minoru Masuda and Thomas H. Holmes, "The Social Readjustment Rating Scale: A Cross-Cultural Study of Japanese and Americans," Journal of Psychosomatic Research XI (August, 1967), 227-37; see also Richard H. Rahe, et al., "The Social Readjustment Rating Scale: A Comparative Study of Swedes and Americans," Journal of Psychosomatic Research XV (September, 1971), 241-49. See also David K. Harmon, Minoru Masuda, and Thomas H. Holmes, "The Social Readjustment Rating Scale: A Cross-Cultural Study of Western Europeans and Americans," Journal of Psychosomatic Research XIV (December, 1970), 391-400.

with white middle income group, more than a previously studied Japanese sample.[48]

Moorehead found significant differences between Black and White college students' perceptions of stressful life events. Of the forty-seven events, twenty-one were significant. Blacks chose those events as stressful which possessed an external orientation whereas whites chose those events that were internally oriented. Significant differences were found between the Black and White students in terms of race, sex, and internal-external control of reinforcement.[49]

In studying the rating system of life events of a college sample, Mond found that students who had never experienced a particular life event tended to rate it as being more stressful than students who had experienced the event. Mond concluded that an attempt to determine factors that affect differences in stress ratings must be considered separately for each life event.[50]

Bieliauskas and Webb used the Holmes and Rahe questionnaire and one modified for a college population and found no significant differences. Also, significant relationships between life changes

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[48]Anthony L. Komaroff, Minoru Masuda, and Thomas H. Holmes, "The Social Readjustment Rating Scale: A Comparative Study of Negro, Mexican, and White Americans," Journal of Psychosomatic Research XII (August, 1968), 121-28.

[49]Nita Faye Brown Moorehead, "Differences Between Black and White Students' Perception of Stress in Life Events" (unpublished Doctoral dissertation, East Texas State University, 1974).

[50]Michael Mond, "The Rating of Life-Events for Stress in a College Student Sample" (unpublished Doctoral dissertation, The University of Wisconsin, 1975).

and professional aid sought by students, but it only accounted for 3 percent of the total variance. The authors question the usefulness of the questionnaire in predicting the need for physical or psychological aid for college students.[51]

In discussing validity and reliability of the relationship between health and life events, Rahe considers the Schedule of Recent Experience (SRE) to be valid but a comparatively conservative estimate of a subjects' recent life-change experience. Reliability estimates for the Schedule of Recent Experience (SRE) have been .90 and .29. The reliability of the questionnaire according to Rahe is related to (1) time interval between administrations, (2) educational level, (3) time interval over which a subject's recent life changes are summed, (4) wording and format of various life event questions, and (5) the intercorrelations between various life change events. Rahe states that intelligence of subjects and lack of motivation to cooperate in the questionnaire's completion will hinder its reliability.[52]

Furthermore, Rahe has pointed out that intervening variables between a subject's recent life events and illness reports exist because of an individual's perception of life events and the

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[51]Linas A. Bieliauskas and James T. Webb, "The Social Readjustment Rating Scale: Validity in a College Population," Journal of Psychosomatic Research, XVIII (April, 1974), 115-23.

[52]Richard H. Rahe, "The Pathway Between Subjects' Recent Life Changes and Their Near-Future Illness Reports: Representative Results and Methodological Issues," Stressful Life Events: Their Nature and Effects, eds. Barbara Snell Dohrenwend and Bruce Dohrenwend (New York: John Wiley and Sons, Inc., 1974), pp. 73-86.

individual's defense mechanisms in dealing with the life events.[53]

The Recent Life Changes Questionnaire

A revision of the Schedule of Recent Experience (SRE) has been developed which includes the original 42 life change questions with some rephrasing plus an additional 13 new life change questions (total 55). In the new questionnaire which is called the Recent Life Changes Questionnaire (RLCQ), subjects scale their own life events. Rahe states that retrospective studies require the Objective Life Change Unit values, but for prospective studies the Subjective Life Change Units (SLCU) may prove more helpful. Accordingly, he suggests the Subjective Life Change Units (SLCU) may indicate the subject's perception, degree of change, and coping resources for the life events.[54]

Life Events and Illness

A positive relationship has been found between illness and the Schedule of Recent Experience (SRE). Studies point out that there is a direct relationship between the magnitude of life change and the risk of a health change. From a pilot study Holmes and Rahe concluded that as Life Change Units increase, so did the percentage of illness associated with life changes. For example, in regard to

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[53]Richard H. Rahe, "Epidemiological Studies of Life Change and Illness," International Journal of Psychiatry in Medicine VI (1975), 133-46.

[54]Ibid.

life changes that were divided according to mild (150-199 LCU), moderate (200-299 LCU) and major (300+ LCU), the percentages of illness for the above divisions were 37, 51, and 79, respectively.[55]

Concerning an examination of the relationship between the amount of life change prior to onset of illness and seriousness of that illness, Wyler and others found positive correlations. However, when the diseases were separated into acute and chronic categories, the latter was positive while the former had no significant correlations. The authors conclude that the greater the life change, the greater the illness.[56]

In a review of his ten years of life change and illness research, Rahe concluded from retrospective studies, which included studies involving subjects on three navy cruisers and another involving 50 Navy and Marine Corps subjects, that 150 Life Change Units (LCU) per year (85 LCU per six month period) was the Life Change Unit total reported by people who remained healthy over the following year. For subjects reporting illness, the Life Change Unit total the year prior to illness was generally between 150 and 300.[57]

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[55]Holmes and Masuda, "Life Change and Illness Susceptibility," pp. 45-72.

[56]Allen R. Wyler, Minoru Masuda, and Thomas H. Holmes, "Magnitude of Life Events and Seriousness of Illness," Psychosomatic Medicine XXXIII (March-April, 1971), pp. 115-122.

[57]R. H. Rahe, "Subjects' Recent Life Changes and Their Near-Future Illness Reports," Annals of Clinical Research 4 (1972), 250-65; see also Richard Rahe and Ransom J. Arthur, "Life-Change Patterns Surrounding Illness Experience," Journal of Psychosomatic Research XI (March, 1968), 341-45.

Next, Rahe also reviews prospective studies one of which involved subjects of three U. S. Navy cruisers. The analysis of variance showed the progression of illness rates to be significant (.01 level). The results also indicated low-order positive relationships between Life Change Units and the number of reported illnesses (usually minor). Similar results have been found with subjects in the Norwegian Navy.[58]

Lastly, in Rahe's review, studies of Underwater Demolition Team trainees show that a subject's recent life changes are similar enough between men that one can predict illness correlations from another group which was not the case with other studies. Serious illnesses, however, were correlated but minor illnesses were not. Hence, Rahe concluded that the findings of his review support the importance of a subject's recent life stress in determining the near-future disease onset.[59]

In a study by Wall the relationships between life change, health status and ego-functioning were significant for a college sample, but they were found to be complex and interactive. Branson also found a significant relationship between life changes and

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[58]Ibid.; see also Richard H. Rahe, Jack L. Mahon, Jr., and Ransom J. Arthur, "Prediction of Near-Future Health Change from Subjects' Preceding Life Changes," Journal of Psychosomatic Research, XIV (December, 1970), 401-6.

[59]Ibid.; see also Richard Rahe, et al., "Psychosocial Predictors of Illness Behavior and Failure in Stressful Training," Journal of Health and Social Behavior, XIII (December, 1972), 393-97.

health status in a college sample; however, the relationships between life change, illness, and Jungian typology (dynamics of individuation and transcendence) were not confirmed.[60]

Marx and others used a College Schedule of Recent Experiences (CSRE) based on the Holmes and Rahe method which was developed by Anderson. The subjects of this college sample were examined for the relationship between life change divided according to high, medium, and low levels and illness experience (five health outcomes). A statistically significant association between high levels of life change and increased illness as measured by five health outcomes was found. The authors conclude that there is an association between major life change and illness for their college population.[61]

Considering the relationship between life changes and heart disease, Theorell and Rahe state that psychological and social factors appear to play an important role on those subjects who develop myocardial infarction based upon studies in the literature and studies in Stockholm using the Schedule of Recent Experience. However, interrelationships between psychological, social, and physical factors must still be investigated. Studies in Helsinki according to

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[60]Thomas William Wall, "Life Change, Illness, and Ego-Functioning" (unpublished Doctoral dissertation, University of Washington, 1974); see also David Howard Branson, "Individuation--Transcendence of Jungian Types, Life Change and Illness" (unpublished Doctoral dissertation, University of Washington, 1975).

[61]Martin B. Marx, Thomas F. Garrity, and Frank R. Bowers, "The Influence of Recent Life Experience on the Health of College Freshmen," Journal of Psychosomatic Research, XIX (February, 1975), 87-98.

Rahe and Romo demonstrate significant increase in recent life changes for both myocardial and coronary death during the final six months prior to infarction or death. Accordingly, Rahe and Romo believe that had not these subjects been exposed to increased life demands, they might not have developed an infarction or coronary death at the time they did.[62]

Studies by Myers and others, Dekker and Webb, and Clum indicate a strong relationship between life events and psychiatric symptoms. While this relationship is not true for all individuals, differences seem to be related to social integration and anxiety.[63] In summarizing a series of studies, Paykel considers the comparison of depressed patients with a control group from the general population to be a strong support for a general relationship between stress and the onset of clinical depression. While he admits more

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[62]Tores Theorell and Richard H. Rahe, "Psychosocial Characteristics of Subjects with Myocardial Infarction in Stockholm," Life Stress and Illness, eds. E. K. Erick Gunderson and Richard H. Rahe (Springfield, Illinois: Charles C. Thomas Publisher, 1974), pp. 90-104; see also Richard H. Rahe and Matti Romo, "Recent Life Changes and the Onset of Myocardial Infarction and Coronary Death in Helsinki," Life Stress and Illness, pp. 105-20.

[63]Jerome K. Myers, Jacob J. Lindenthal, and Max P. Pepper, "Life Events, Social Integration and Psychiatric Symptomalogy," Journal of Health and Social Behavior XVI (December, 1975), 421-27; see also Daniel J. Dekker and James T. Webb, Relationships of the Social Readjustment Rating Scale to Psychiatric Patient Status, Anxiety and Social Desirability," Journal of Psychosomatic Research XVIII (April, 1974), 125-30; see also George A. Clum, "Role of Stress in the Prognosis of Mental Illness," Journal of Consulting and Clinical Psychology XLIV (1976), 54-60.

research methodology is needed, Paykel states that depression, generally, "is a final common pathway towards which a number of causes, recent and previous, converge."[64]

The Controversy Surrounding Life Change Research

According to Holmes and Masuda there is a significant relationship between life change and the time of disease onset. Also, the greater the magnitude of life change, the greater the probability that the life change would be associated with disease onset.[65] The authors further state that the stress of life events "achieves etiologic significance as a necessary, but not sufficient, cause of illness and accounts in part for the time of onset of disease."[66]

On the other hand, Hinkle believes that the life event research has produced ambiguous and confusing results. He does not accept the hypothesis that certain kinds of situations or relationships are inherently stressful and certain others are not. Accordingly, Hinkle says the consistencies that appear in the findings of Holmes and others are based upon certain consistencies in the social relationships of many people in many societies. In other words some

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[64]E. S. Paykel, "Recent Life Events and Clinical Depression," Life Stress and Illness, eds. E. K. Gunderson and Richard H. Rahe (Springfield, Illinois: Charles C. Thomas Publishers, 1974), pp. 134-63.

[65]Holmes and Masuda, "Life Change and Illness Susceptibility," pp. 45-72.

[66]Ibid., p. 48.

events may be considered likely to be more meaningful or less meaningful for people from the same level of the same society. That is, it is difficult to assume that a certain event is intrinsically more stressful than another. Thus, Hinkle believes that the social condition or interpersonal relationship is not a sole and sufficient cause of disease, but rather the social phenomena will interrelate with other apparent causes.[67]

While Dohrenwend and Dohrenwend conclude that there is a wide variety of correlations between life events and illness, they agree with Hinkle that life events are associated with almost any disease and that there is probably no aspect of human development or disease in which a relationship to the social and interpersonal environment does not exist. Furthermore, the authors state there are no definitive answers to the question of what is the risk that illness will follow stressful life events. This is due to the research designs and methodologies. For example, there are problems with definitions of stress, positive and negative aspects of stress, and difficulties with comparing ill subjects with control groups. Also, there are factors that influence the responses to stressful life events such as personality differences and sociocultural differences. However, even though there is controversy concerning how to conceptualize and measure stressful life events, life events according

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[67]Lawrence E. Hinkle, "The Concept of 'Stress' in the Biological and Social Sciences," International Journal of Psychiatry in Medicine V (1974), 335-57.

to Dohrenwend and Dohrenwend are researchable and an important area of study.[68]

Rahe states that his studies on life events are rough approximations of etiologic factors in disease onset, and therefore, the psychophysiologic pathways involved in illness onset should be studied by different branches of medical research.[69]

Small magnitudes of life change and no meaningful increase in life change prior to hospital admission were found in a study by Wershaw and Reinhart. The authors concluded from their study and a review of other life change studies that life change research related to illness may be statistically significant but not clinically significant. Since the authors found a weak relationship between life change and illness, improper analyses, and poor methodologies, they call for a moratorium in the use of the Schedule of Recent Experience (SRE).[70]

On the contrary, Caplan disagrees with Wershaw and Reinhart's article on the issue of a moratorium on life change research. While he agrees that there is a need for improved research, he suggests

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[68]Barbara Snell Dohrenwend and Bruce P. Dohrenwend, "Overview and Prospects for Research on Stressful Life Events," Stressful Life Events: Their Nature and Effects, eds. Barbara Snell Dohrenwend and Bruce P. Dohrenwend (New York: John Wiley and Sons, Inc., 1974), pp. 313-31.

[69]Rahe, "Epidemiological Studies of Life Change and Illness," pp. 133-46.

[70]Harold J. Wershaw and George Reinhart, "Life Change and Hospitalization--A Heretical View," Journal of Psychosomatic Research, XVIII (December, 1974), 393-401.

using the normed Life Change Units (LCU) cautiously with certain populations under study and the possibility of subjects indicating their own adjustment to life events. Caplan believes there is a need for open debate and further explanation in the life change field.[71]

In sum, this section has examined the Schedule of Recent Experience including its validity and reliability and a revision of the questionnaire. It also presented how the questionnaire has been used in studies dealing with illness. Lastly, the controversy concerning the research in the life change field was considered in regard to methodologies, analyses, and varying results.

After having reviewed some of the life change research for adults, the next section deals with life changes as it relates to children.

LIFE CHANGE EVENTS AS RELATED TO CHILDREN

Rapid change in our society means man must adapt to changes going on in his life. Studies have shown that life changes affect adults and these changes can be measured. The amount of adjustment children have to life events can also be measured by use of the Life Event Record. This section presents: (1) the Life Event Record, (2) the Adolescent Life Event Rating Technique, and (3) the research using the Life Event Record for studies involving behavior maladjustment and illness.

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[71]Robert D. Caplan, "A Less Heretical View of Life Change and Hospitalization," Journal of Psychosomatic Research XIX (1975), 247-50.

The Life Event Record

The Life Event Record is a questionnaire developed by Coddington. It is used for quantifying the significance of life events in the lives of children. While Coddington's method is a modification of the one used by Holmes and Rahe for an adult population, it is a way to measure the amount of readjustment to life events. Coddington developed four questionnaires for four different age groups: preschool, elementary, junior high, and senior high. There are 30, 36, 40, and 42 questions respectively for each group. The items for the questionnaire were chosen from the literature and from experience with normal and abnormal children. To obtain the amount of readjustment for each item, the questionnaires were given to a sample of 243 professionals--131 teachers, 25 pediatricians, and 87 mental health workers employed in academic divisions of child psychiatry. The subjects were asked to rate the life event items as to how much an item affected a child's social readjustment. One item, the birth of a brother or sister, was given an arbitrary value of 500 so that subjects could decide if the other items required more or less readjustment. While there were no limit as to the values that could be used, the subjects were told to put their opinion of the average degree of readjustment. The author pointed out that even though an event could be desirable or undesirable, some sort of readjustment would be required on the part of the child.[72]

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[72]R. Dean Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children I--A Survey of Professional Workers," Journal of Psychosomatic Research XVI (February, 1972), 7-18.

Next, the geometric mean rather than the arithmetic mean was found for each item which was then divided by 10 to obtain the amount of readjustment for each event. Hence, the weights or values for the items are called Life Change Units. The ranking of the items and all of the Life Change Units comprises the Social Readjustment Rating Scales.[73]

The rank order correlations between the characteristics of the sample: the professional groups, sex, religion, marital status, and experience in direct work with children, were high. The correlations were between .846 and .98. Thus the subsamples essentially agree on the relative importance of all items.[74]

In order to study how the three professional groups weighted each item for the amount of readjustment, Coddington changed the investigation to two groups: (1) the mental health professionals, divided by years experience and (2) differences in valuing among teachers, pediatricians and mental health professionals. Among the mental health professionals, the value of only nine of the 144 life event items were significantly different. In other words, there was a remarkable agreement among the 87 mental health professionals. Among the three professional groups there were 71 statistically significant differences between the ratings of the 144 life events. The differences were between the ratings of the teachers and the mental health professionals or pediatricians. For example, in the

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[73] Ibid.

[74] Ibid.

case of younger children, mental health professionals gave higher estimates to the highest ranking life events, and lower estimates to the less important events than teachers. Teachers gave higher estimate values to life events with older children. Thus, as a result of this study the amount of social-psychological readjustment a child undergoes during a specific time period can be determined by summing the Life Change Units.[75]

In order to establish normal values for children of different ages and to investigate the influence of the variables of sex, race, socioeconomic class and religion, the questionnaires were given to 3526 children. This study was carried out around the Columbus, Ohio, area at community recreation centers, day care centers, and door-to-door canvassing. Parents were asked to complete the pre-school and elementary forms, and the junior high and senior high forms were completed by the subjects themselves. The sample consisted of a racial proportion approximating the state of Ohio with a balance of age and social class. After the data collection the average number of life events and the average amount of Life Change Units obtained from the three professional groups were calculated.[76]

Correlation coefficients between the social class, race, and sex variables failed to reveal any significant differences. Differences were found with the age variable. That is, the amount of

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[75]Ibid.

[76]R. Dean Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children II--A Study of a Normal Population," Journal of Psychosomatic Research XVI (June, 1972), 205-13.

readjustment increases as the child grows older. According to the study an increase in readjustment occurs at the age of 6 and 7 when he starts school, and the major jump occurs at the age of 12-14 with the start of puberty and the traditional adolescent turmoil.[77]

The Adolescent Life Event Rating Technique

Coddington has introduced a new questionnaire, the Adolescent Life Event Rating Technique (ALERT), which is a modification of the Life Event Record for junior high and senior high level. The new questionnaire's Life Change Units are based upon values obtained from adolescents rather than the values of professionals. This questionnaire has 50 items and is divided into 16 family events and 16 undesirable and 18 desirable personal events.[78]

To obtain the new values of Life Change Units, a questionnaire of 60 events was given to a sample of 349 adolescents in the New Orleans area such as community centers, shelter for runaways, private white school and other adolescent hangouts. There were four different orders of presentation used and the geometric mean for each item was divided by ten as was done in Coddington's previous study. The adolescent subjects compared the amount of readjustment of each item to a standard item, the birth of a brother or sister, with a

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[77] Ibid.

[78] R. Dean Coddington, "Adolescents Identify Stressful Life Events" (paper presented at the symposium: Children and Parents Under Stress, sponsored by the Langley Porter Neuropsychiatric Institute, San Francisco, May, 1975).

value of 500 units. The subjects were asked if the event happened to them and if so how many times. Any value was permitted, but high values were reduced to 10,000. And an incidence of 6 or more was arbitrarily reduced to 5. In addition age, race, sex, family size, position in the family and socioeconomic class were recorded.[79]

After the adolescent Life Change Units were obtained, they were compared to the professional weights in Coddington's previous study. The adolescents weighted fourteen items considerably higher; nine were moderately weighted and fifteen items were of little or no disparity. The correlation coefficient between the adolescent weighting and the professional weighting was only 0.37.[80]

In regard to the differing order of presentation of the items, four different forms were used, and the intercorrelation ranged from 0.85 to 0.92. When controlled for individual interviews or group administration, the intercorrelation ranged from 0.81 to 0.95 and 0.80 to 0.91, respectively. Also, the data was divided in random fourths and the intercorrelations run between groups ranged from 0.92 to 0.96. Hence, the results reveal satisfactory internal consistency.[81]

Considering the age variable, a correlation coefficient of 0.95 was found between those 14 and under and those 15 and over. While girls generally gave higher ratings, there was a correlation of 0.95 between the boys and the girls. The correlation coefficients

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[79] Ibid.

[80] Ibid.

[81] Ibid.

between Blacks and Whites was 0.85. Comparing socioeconomic class, based upon Hollingshead Redlick Index of Social Position which has four divisions, the lower strata gave higher weights than the more affluent subjects. The correlations for the socioeconomic class differences ranged from 0.70 to 0.95. The correlations for family size, small families (1-4 children) and large families (5 or more), ranged from 0.91 to 0.95. And the birth rank correlation, comparing the eldest to the youngest, was 0.96. Lastly, those who were compared with experiencing an event with those not experiencing an event correlated 0.67.[82]

The disparity of the events reveals some interesting observations. The children under 14 gave an average weight of 12 units higher than those 15 and over. The death of a parent was given a higher weight by the younger adolescent. While the older adolescent has learned that certain events are not so bad, experience of an event does influence the weight given by the adolescent. And although differences exist between race and socioeconomic status, the adolescents seem to agree with each other to a much greater extent than the professional groups in Coddington's original study.[83]

Hence, Coddington concluded that the life events weighted by the adolescents are both valid and reasonably reliable. Furthermore, he states that unitary (simple) scores are not the same as weighted scores. In order to compare the difference between the two scores, Coddington found that the correlation between simple

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[82]Ibid.

[83]Ibid.

counts of the event and the professional weight was 0.92. With repeated occurrences of an event counted, the correlation between simple and professional weights was 0.90. Next, by substituting the adolescent weights, the correlation dropped to 0.57.[84]

While substantially agreeing with Gersten and others in regard to the desirability of an event, the Adolescent Life Event Rating Technique (ALERT) differentiates between desirable and undesirable events. In addition the new questionnaire is divided into those which affect the child directly (personal event) and those that affect the family. Since some items occurred infrequently, they were dropped; therefore, the questionnaire has 50 items. Thus the new questionnaire allows for a personal score and a family score. With a composite personal (desirable-undesirable) score less the family score, the result would be an "environmental" score.[85]

The Life Event Record As Related to Behavior Maladjustment and Illness

Gersten, Langner, Eisenberg and Orzeck used a modified form of the Life Event Record (25 items) in their study in order to determine if the stressfulness of life events was related to change per se or to the undesirability of change. The authors state, because of the studies of Holmes and Rahe and others, change became the critical component in making life events stressful rather than the desirability or undesirability of life events. This was due,

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[84] Ibid.

[85] Ibid.

according to the authors, to the dependent measures of past studies which reflect anxiety.[86]

The hypothesis of Gersten et al., is that the stresses of life events are related more to the undesirability of change than change per se. The subjects in the study were 674 Manhattan children from a five-year follow-up study of an original stratified systematic cluster sampling plan. There were eleven dependent variables, 1 representing anxiety and 10 representing behavioral impairment. Examples of the behavioral impairment variables would be: regressive anxiety, mentation problems, fighting, two total scores (a 35-item and 40-item score), and Behavior Change Score. Behavior Change Score was one in which the mother was asked if there had been a change in her child's behavior. For comparison purposes the study had six independent (Life Change) variables. However, the 25 items or life changes were categorized as to their desirability or undesirability. From this categorization, four scores were developed in which each event was given a weight of 1: Undesirable Event Score = sum of 16 events, Desirable Event Score = sum of 5 events, Total Change Score = sum of 25 events (which included 4 ambiguous events), and Difference Score = Undesirable Event Score minus Desirable Event Score. In addition, the weighted (or Life Change Units) version of the Total Change Score and a difference score (undesirable-desirable) of the

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[86]Gersten et al., "Child Behavior and Life Events: Undesirable Change or Change Per Se?" Stressful Life Events: Their Nature and Effects, eds. Barbara Snell Dohrenwend and Bruce P. Dohrenwend (New York: John Wiley and Sons, Inc., 1974), pp. 159-170.

weighted items were formed. The weighted score was an average of the Life Change Units for the junior high school and senior high school's Social Readjustment Rating Scale developed by Coddington's original study.[87]

The results of the study reveal that the Total Change Score (each of the 25 items counted as one) were correlated significantly ($p \leq .05$) with every dependent variable. However, except for the anxiety measure, the Difference Score or the balance between the desirable and undesirable events was more highly correlated with the dependent variables than with the simple Total Change Score. This difference between the two types of scores was significant ($p \leq .01$). The undesirable event score was more highly correlated with the dependent variables than the Total Change Score except for fighting. For example, Regressive Anxiety correlated .17 with the Simple Total Change Score and .08 with the Difference Score. On the other hand, the 35-item total and the 40-item total (behavior impairment scores) correlated .23 and .24 respectively with the Total Life Change Score and .31 and .32 respectively with the Difference Score. According to the authors the assumption that the Difference Score was the important component to the stressfulness of life events was supported since the Difference Score showed a significantly greater correlation with the dependent variable than with the total change measures. To further explain the results, the authors point out the Mentation variable (i.e., slow thinking, trouble remembering, poor grades)

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[87] Ibid.

correlated .17 with the Undesirable Event Score and -.07 with the Desirable Event Score. Furthermore, the Mentation variable correlated .10 with the Total Change Score, and .20 with the Difference Score. The difference between the simple Total Change and the Difference Score was significant at the .01 level. To use another example, Delinquency (i.e., trouble with police and ran away from home four or more times) correlated .20 with the Undesirable Event Score and -.14 with the Desirable Event Score. Delinquency correlated .09 with the Total Change Score and .27 with the Difference Score. The Behavior Change Score in which the mother evaluated changes in her child's behavior was correlated -.11 with the Total Change Score and .18 with the Difference Score. Thus, with the exclusion of the anxiety measure, the range of the correlation coefficients between the Total Change Score and the dependent measures was from .09 to .24 with two coefficients above .20. In comparison, the range of the correlation coefficients between the Difference Score and the dependent measures was from .15 to .32 with three coefficients below .20.[88]

The authors considered the use of the multiple dependent variables called psychological or behavioral impairment variables to be an important factor in determining to what extent different conceptions or stressfulness of life events contributed to different types of behavioral impairment. The hypothesis that the anxiety measure would correlate more strongly with the Total Life Change

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[88]Ibid.

Score and the behavioral impairment variables would relate more strongly with the undesirable aspects of Life Change was supported. Thus according to this study the undesirability measures of the stressfulness of life events and especially the balance between undesirable and desirable events were the more critical dimension. The authors conclude that undesirability was the more productive operational measure of stress than the amount of change.[89]

Gersten et al., considered Coddington's weights or Life Change Units not to be beneficial because the weights correlated highly with the Unitary Life Change Score. Coddington, however, states that this high correlation is understandable in view of their modification. According to Coddington, Gersten et al., used a list of 25 items with a weighted value range of 35 to 80 instead of a list of 40 to 43 items with a range of 28 to 101. Second, they separated and gave different weights to the original Life Event Record. Thirdly, they added new items with the weight of 50. Most of the items ranged around 50; for example, fourteen items had weights of 50-59, seven exceeded 59 and four were less than 50. With its similarity in weights, the unitary score and the weighted score would be similar.[90]

Heisel used a modification of Coddington's Life Event Record to study the onset of juvenile rheumatoid arthritis. Juvenile rheumatoid arthritis affects one in 1,500 children and cripples more

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[89]Ibid.

[90]Coddington, "Adolescents Identify Stressful Life Events."

children than any other musculo-skeletal disease, and is a major cause of childhood blindness.[91]

One of the four questionnaires of the Life Event Record for the different age groups (preschool, elementary school, junior high school, high school) was administered to the parents of the 45 patients in a children's hospital. The parents indicated if and when (month and year) a list of events had occurred in the patient's life. Next, the hospital records of the patients were examined. Subjects who had diseases other than juvenile rheumatoid arthritis were eliminated from the study. The results was an N of 34. The date of onset of the disease was considered the important factor in the hospital records since it is relatively objective. Each subject was then randomly matched by computer with two control children from Coddington's study of the normal population (N = 3620). The control group and the juvenile rheumatoid arthritis group were matched on the basis of age, sex, race, educational level of the mother and the father, and religion.

Heisel concluded that children who develop juvenile rheumatoid arthritis tend to have experienced a cluster of life changes, higher in amount and intensity than the average child.[92]

In another study of children with illnesses, Heisel and others, using the Life Event Record, found that 34 percent of the

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[91]J. Stephen Heisel, "Life Changes as Etiologic Factors in Juvenile Rheumatoid Arthritis," Journal of Psychosomatic Research XVI (October, 1972), 411-20.

[92]Ibid.

children experienced a high amount of life changes. The authors concluded that children with illnesses experience more life changes than would be expected in a healthy population.[93]

In sum, this section introduced the Life Event Record which is a measure of the amount of readjustment children have to life events. A revision of this questionnaire, the Adolescent Life Event Rating Technique (ALERT) was discussed. Lastly, the Life Event Record was considered in its use with studies involving illness and maladaptive behavior.

The next section will deal with life changes as they affect performance or personal variables.

LIFE CHANGES IN CHILDREN, COLLEGE STUDENTS AND TEACHERS AS THEY AFFECT PERFORMANCE OR PERSONAL VARIABLES

Studies exist which correlate life changes in individuals with the subjects' school performance or personal variables. This section examines the literature of life changes as they relate to school performance or personal variables which involve children, college students, or teachers. It reviews those studies using the Life Event Record, the Schedule of Recent Experience or one of its modifications.

Jenks used the Life Event Record for senior high school students to study the relationship between the amount of change in the students' life and their self concept. Self concept was

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[93]J. Stephen Heisel, et al., "The Significance of Life Events in the Diseases of Children," Journal of Pediatrics LXXXIII (July, 1973), 119-123.

measured by the Tennessee Self Concept Scale. Two hundred students in the tenth, eleventh, and twelfth grades from two Wichita high schools participated in the study. Students were divided into three groups according to their total Life Change Units: high (269-908), medium (157-287), and low (0-151) with 66 students in each group. The medium groups with 66 students were eliminated from the study in order to form two dichotomized groups. Next the scores on the Life Event Record were correlated with the scores on the Tennessee Self Concept Scale which included a total score and eight sub-scales which form the total score. There was a significant negative relationship between the total Life Change Units and the scores on the Tennessee Self Concept Scale. The significant correlation coefficients for the overall level of Self-Concept and seven of the eight sub-scales are as follows: Total self concept -.43, Personal Identity -.38, Self Satisfaction -.29, Perceptions of Behavior -.45, Physical Self -.41, More Ethical Self -.45, Perceptions of Personal Worth -.30, and Perceptions of Relations to Family -.37. The Social Self and Total Variability Subscales were not significantly correlated. The author concludes that high change was related to lower self-concept and low change was related to higher self-concept.[94]

Dye investigated the relationship between life changes and days absent using a modified form of the Life Event Record for Junior High School students. The questionnaire had 38 items; two

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[94]Letitia Chambers Jenks, "Change and the Individual: The Relationship Between the Amount of Change in the Life of a Student and His Self Concept" (unpublished Doctoral dissertation, Oklahoma State University, 1973).

questions were deleted, Unwed pregnancy and Fathering an unwed pregnacy from Coddington's questionnaire. The sample was 96 students; 79 percent girls and 29 percent boys, in the eighth grade from a selected junior high in a suburban area. The subjects indicated whether they had experienced an event in the past two years and estimated their days absent for the past year. In determining the total Life Change Units for each respondent, the value for each item was summed; and if an event happened both years (twice), the value for that item was added twice. A regression analysis found a positive correlation between Life Change and days absent. Assuming a proportional relationship between Life Change Units and days absent, the correlation coefficient for the total sample was 0.51 and 0.42 for the girls and 0.63 for the boys. A Spearman Rank Correlation between Life Change Unit scores and the number of days absent was 0.56 for the total group and 0.55 for both the boys and the girls. Both statistical measures were significant at the .01 level.[95]

In a study of 361 children from St. Louis at the age of 72 months, Salib used the Life Event Record for preschool children. The purpose of the study was to determine if there were relationships between life changes and anxiety or between life changes and

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[95]Bernice Julia Dye, "Investigation of Life Change Unit Scores in Eighth Grade Students" (unpublished Master's Thesis, University of Washington, 1974).

defensiveness using the Wallach-Kogan Test for General Anxiety and Defensiveness. Based upon the central tendency measures and the distribution of scores, the three total scores, life changes, anxiety, and defensiveness, were divided into four classifications: low, low medium, high medium, and high. Results of a Chi Square test showed the relation between anxiety and life changes not to be significant but the relation between life changes and defensiveness to be significant at the .05 level. Next the life change events were categorized by ten judges into events relating to parents and grandparents, siblings, and the child. A step-wide regression was used to determine rank order but no test of statistical significance was used. As a result the parent-grandparent related events had the highest correlation with anxiety and the lowest with defensiveness. The siblings related events had the highest correlation with defensiveness and second rank order with anxiety. Lastly, the child related events had second highest correlation with both anxiety and defensiveness.[96]

Harris studied 300 college freshmen (18-22 years old) in order to determine the extent to which grade point average was affected by life change. He developed the Social and Collegiate Readjustment Rating Scale which is a modified version of Holmes and Rahe scale (39 of the 49 items were on the Holmes and Rahe scale). The sample was divided into three sections of one hundred

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[96]Samir Boulos Salib, "Life Change Events and Adjustment in Children" (unpublished Doctoral dissertation, Saint Louis University, 1975).

members according to the subjects' composite scores on the College Admission tests. These divisions which were based upon a measure of college readiness or academic risk were: low risk, medium risk, and high risk. Using a Fisher's t test to determine if a significant relationship existed between life change scores with the 27 highest and 27 lowest grade point averages for each division found significant differences between life changes and grade point averages for all three divisions. Harris concluded that life change does affect grade point averages of students in his study, and it generally appears to be inversely proportional to the amount of life change experienced.[97]

In another study Bassetti using the Social and Collegiate Readjustment Rating Scale examined the relationships between life change, trait anxiety, dogmatism and grade point averages of 300 freshmen in low, medium, and high academic risk areas. The study concluded there were no significant differences in life change and trait anxiety among freshmen at the three academic levels. But college freshmen at high academic risk levels were more dogmatic than the other two academic risk levels. At the low academic risk level, freshmen who had small amounts of life change had

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[97]Paul White Harris, "The Relationship of Life Change to Academic Performance Among Selected College Freshmen at Varying Levels of College Readiness" (unpublished Doctoral dissertation, East Texas State University, 1972).

significantly higher mean grade point averages than freshmen who reported large amounts of life change.[98]

Also using the Social and Collegiate Readjustment Rating Questionnaire, Henard investigated the relation of life change and reading achievement to academic performance for 117 volunteered community college freshmen. Academic performance was measured by grade point averages, course-hour load and selected attitudes (Attitude Survey). The subjects were classified according to high and low life change and according to high, moderate and low reading groups for a total of six groups. Using the analysis of variance, the six groups were analyzed for their relation to academic performance. The author concluded that reading achievement is an effective predictor of academic performance and life change predicted only course-hour load effectively.[99]

Wildman using a slightly modified version of Harris' Social and Collegiate Readjustment Rating Questionnaire found slight, but consistent, adverse effect on attitudes of acceptance toward others using Berger's Acceptance Scale ($r = -18$) and between life changes and mental health using Langner's 22 item Mental Health Inventory ($r = .26$) with a college sample. In addition he found a significant

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[98]Roger Lee Bassetti, "Life Change, Trait Anxiety, Dogmatism, and Academic Performance of College Freshmen" (unpublished Doctoral dissertation, East Texas State University, 1973).

[99]Kay Fields Henard, "Life Change and Reading Achievement as Predictors of Academic Performance for Selected Community College Freshmen" (unpublished Doctoral dissertation, Texas A & M University, 1975).

negative relationship between life change and semester grade point average but not with a semester grade point average difference score (semester grade point average minus the previous semester's accumulative grade point average). After factor analyses and using Life Change Units in the upper ranges, correlation coefficients were much higher.[100]

Adams investigated the influence of life change on counselor effectiveness as related to sex, previous work experience, and previous group experience. In this study of 54 graduate master's students, Adams concluded that female counselor trainees with low amounts of life change were rated more effective in their counseling skills than males with low amounts of life change.[101]

Schuette used a modified form of Coddington's Questionnaire for senior high school students in which two questions were added for his study of 164 college freshmen. The students were divided into high life change-high grades and high life change-low grades within three academic risk levels for comparison. The author concluded that

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[100]Richard C. Wildman, "The Effects of Life Change on Self-Attitudes, Attitudes Toward Others, Mental Health, and Role Performance in a College Sample" (unpublished Doctoral dissertation, University of Nebraska, 1974).

[101]Daniel Wilson Adams, "Life Change and Counseling Effectiveness" (unpublished Doctoral dissertation, East Texas State University, 1976).

there were no significant differences in locus of control and in goal preference between these selected freshmen.[102]

In Clinard's study of 105 graduate and undergraduate student volunteers, the scores on the Schedule of Recent Experience correlated with personal injury (r = .41), the number of different lines of work previously held (r = .35), the number of days absent from work (r = .18), promotions (r = .34), and raises (r = .29). While the performance variables such as grades, tardiness to class and cramming for exams did not correlate to the total change scores, the performance variables did correlate to some of the individual life events.[103]

In assessing the correlation between Life Change and 41 elementary intern teachers, Hoskins found absenteeism was positively related to life change. This was also true for single female teachers.[104]

In a sample of 110 volunteer teachers, Carranza found life change was related to teacher performance. Significant positive correlations were found between life change and teacher absenteeism

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[102]Clifford G. Schuette, "Life Change, Locus of Control, Needs, and Academic Performance of College Freshmen" (unpublished Doctoral dissertation, East Texas State University, 1975).

[103]John W. Clinard, "Life-Change Events as Related to Academic and Job-Related Performance" (unpublished Master's Thesis, Middle Tennessee State University, 1972).

[104]Alice Lavonne Hoskins, "An Assessment of the Correlation Between the Magnitude of Life Change and the Teacher Behavior of the Elementary Intern Teacher," (unpublished Doctoral dissertation, Michigan State University, 1972).

and change in residence. In addition teachers who had more life change earned less credits beyond the B.A. degree. Other significant correlations were found between life change and grades given to students, and transfer requests. Carranza states that the thesis that life change and these teacher performance variables are related was supported.[105]

In sum, a review of the literature concerning life changes shows that they are related to school performance and personal variables. Life changes have an inverse relationship on these variables, that is, the higher the life change scores, the lower the performance scores or personal variable scores representing a negative effect.

The next section examines the nature of the adolescent and his growth and development.

ADOLESCENCE

This section presents the nature of the adolescent and his growth and development. It is concerned with growth and development in reference to the adolescent's physical, psychological, and social development. It is pointed out that while there are changes within the adolescent, there are changes in his enviornment that may also influence his development.

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[105]Elihu Carranza, "A Study of the Impact of Life Changes on High School Teacher Performance in the Lansing School District as Measured by the Holmes and Rahe Schedule of Recent Experience" (unpublished Doctoral dissertation, Michigan State University, 1972).

Adolescence is a time of transition from childhood to adulthood.[106] It is a period of rapid change which involves the physical, psychological, and social capacities of the individual; the changes are both internal and external.[107] Stone and Church refer to adolescence as a time in which the young person is "no longer a child but is not yet an adult. . . ."[108] It is a cultural phenomenon in which the time interval between childhood and adulthood is extended especially in the industrialized societies.[109] While the inner turmoil of the young person finds external expression, the immaturity of adolescents, according to Stone and Church, is largely the result of the way adults treat them.[110] In understanding the young person, consideration must be made of the world in which he lives and how the world is seen and felt by him.[111] Generally, Gordon refers to this period as a time when the individual "redefines himself,

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[106]Elizabeth B. Hurlock, Adolescent Development (New York: McGraw-Hill Book Company, Inc., 1973), p. 5.

[107]John Janeway Conger, Adolescence and Youth: Psychological Development in a Changing World (New York: Harper and Row, Publishers, 1973), p. 33.

[108]L. Joseph Stone and Joseph Church, Childhood and Adolescence: A Psychology of the Growing Person (3d ed., New York: Random House, 1973), p. 431.

[109]Ibid., pp. 425-27.

[110]Ibid., p. 431.

[111]Derek Miller, M.D., Adolescence: Psychology, Psychopathology and Psychotherapy (New York: Jason Aronson, Inc., 1974), p. 3.

discovers new aspects of himself, modifies previously held self-images and emerges with a new sense of identity."[112]

The central concern in adolescence is identity, a sense of self in relation to the world.[113] Miller defines identity like Erikson--"a conscious sense of individual uniqueness."[114] For McKinney the adolescent is concerned with how to preserve continuity within the person who was once a child and is now becoming a mature adult.[115] The struggle for identity involves "the search for a vocation or career, the elaboration of one's sexual role, singular accomplishments, and identification with others."[116]

Adolescence can be divided into early (age 13-17) and late adolescence (age 17-18) which are based on behavioral patterns.[117] Although one cannot make generalizations concerning adolescence, Miller states that at the time of puberty, typically the time of turmoil, there is the need for identity independence (age 11 or

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[112]Ira J. Gordon, Human Development: From Birth Through Adolescence (2nd ed.; New York: Harper and Row, Publishers, 1969), p. 275.

[113]Stone and Church, Childhood and Adolescence, p. 460.

[114]Miller, Adolescence: Psychology, Psychopathology and Psychotherapy, p. 52.

[115]John Paul McKinney, Hiram E. Fitzgerald, and Ellen A. Strommen, Developmental Psychology: The Adolescent and Young Adult (Homewood, Illinois: The Dorsey Press, 1977), p. 11.

[116]Ibid.

[117]Hurlock, Adolescent Development, p. 2.

12-14 or 15). After this period, it is a time of identification and self-realization (age 14 or 15-17 or 18).[118]

Since physical development is not the same for all adolescents, age as an assessment for expectations is unreliable. From an emotional, educational, and social point of view, maturational age may be more important than chronological age.[119] For instance, the early and the late maturing individual may have differences in self esteem and their needs may differ.[120]

One of the most important external influences on adolescent development is the family.[121] Children identify with the way the family relates with each other. While becoming independent from the family is of prime importance, the young person needs guidance and must have an idea of who he is and where he is going.[122] McKinney refers to Margaret Mead's co-figurative culture in which the child may be learning as much from the peer culture as at home. And as a matter of fact, Mead feels we are moving toward a pre-figurative culture in which children are more exposed to change than are their

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[118]Miller, Adolescence: Psychology, Psychopathology and Psychotherapy, p. 6.

[119]Ibid., pp. 4-6.

[120]McKinney, Developmental Psychology: The Adolescent and Young Adult, p. 39.

[121]Conger, Adolescence and Youth, pp. 174, 196-97.

[122]Miller, Adolescence: Psychology, Psychopathology and Psychotherapy, p. 4.

parents.[123] The stress on the family from social change increases the difficulties of the adolescent period.[124] In view of change and the importance of stability for the adolescent, the excellent parent, according to McKinney is "being able, to balance on that fine line between authoritarianism and laissez-faire passivity--being flexible and fair, yet adhering to principle."[125] Mckinney agrees with Ginott that it is important for the parent to respect the rights and feelings of the child and vice versa.[126]

While adolescence is an intense time of sociability, it can be a time of loneliness. In effect, there is a need to share his strong and confusing emotions with his peers.[127] McKinney points out Sullivan's idea that interpersonal relations are important in the development of personality. Adolescence which is the time of puberty is a time when there is interest in the opposite sex. That is, from the preadolescent same sex cliques, the young adolescent associates with similar cliques of opposite sex and then heterosexual cliques.[128]

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[123]McKinney, Developmental Psychology: The Adolescent and Young Adult, pp. 102-3.

[124]Conger, Adolescence and Youth, p. 184.

[125]McKinney, Developmental Psychology: The Adolescent and Young Adult, p. 103.

[126]Ibid.

[127]Conger, Adolescence and Youth, p. 288.

[128]McKinney, Developmental Psychology: The Adolescent and Young Adult, pp. 108-14.

The adolescent is concerned about his status with his peers possibly because he feels out of step with them.[129]

Related to sociability and development is conforming which increases with age especially during adolescence. Conformity decreases after adolescence. The most conforming years are from 11 to 13 which follows a developmental trend.[130] In addition Elkind's idea of egocentrism of the adolescent, according to McKinney, is an important aspect at this time of the adolescent's new stage of cognitive development. In Elkind's view for each stage of cognitive development, the child goes through a period of egocentrism. That is, the adolescent is self-conscious and behaves as though he is being watched.[131] The peer group in the United States can exert influence even to the extent of opposition to values held by adults. In the USSR peer group pressure can be harnessed by adult society. To Bronfenbrenner this has important implications for education. For considering the influence of peer culture on the growth and

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[129]Stone and Church, Childhood and Adolescence, p. 420.

[130]McKinney, Developmental Psychology: The Adolescent and Young Adult , pp. 124-25; see also Philip R. Costango and Marvin E Shaw, "Conformity as a Function of Age," Adolescent Behavior and Society: A Book of Readings, ed. Rolf E. Muuss (New York: Random House, 1971), pp. 242-49.

[131]Ibid.; see also David Elkind, "Egocentrism in Adolescence," Adolescent Behavior and Society: A Book of Readings, ed. Rolf E. Muuss (New York: Random House, 1971), pp. 39-48.

development of the adolescent, this should not be left to chance in any society.[132]

A major part of the adolescents' time is spent in school. It is a time preparing (learning) for the future. It is a time of cognitive growth for the adolescent. It is a stage of formal operations in Piaget's terminology when the individual's thinking becomes abstract whereas previously it was based on concrete operations. The adolescent is beginning to hypothesize and use deductive reasoning. As McKinney points out in Guildford's model of the structure of the intellect, there are many dimensions and that developmentally speaking the structure of the intellectual functioning is more complex. In addition IQ tests measure traditional intelligence but creativity is not often measured. The creative students are more divergent thinkers as opposed to convergent thinkers who tend to come up with different and original answers.[133] At early adolescence, the individual develops a new cognitive competence in which he is able to examine the logic and consistency of his existing belief.[134]

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[132]Urie Bronfenbrenner, "Response to Pressure from Peers Versus Adults among Soviet and American School Children," Adolescent Behavior and Society: A Book of Readings, ed. Rolf E. Muuss (New York: Random House, 1971), pp. 433-41.

[133]McKinney, Developmental Psychology: The Adolescent and Young Adult, pp. 131-59.

[134]Jerome Kagan, "A Conception of Early Adolescence," Twelve to Sixteen: Early Adolescence, eds. Jerome Kagan and Robert Coles (New York: W. W. Norton and Company, Inc., 1972), pp. 90-105.

While school is a place for learning, scholarship may not be the most important to the student when compared to athletics and popularity.[135] In the adolescent's search for popularity and status, students become more selective about whom they run around with in the school. The social divisions are based on orientation to the future, social background or personality types, or some combination of these. The divisions are psychologically real and the individuals realize to which one they and others belong.[136]

In discussing Friedenburg's analysis of the effect of high school on adolescent development, McKinney points out that Friedenburg's idea of self clarification is similar to Erickson's notion of identity. Furthermore, Friedenburg states that schools do not help and may hinder the adolescents' self-esteem and self-clarification.[137]

The importance of cultural differences can be exemplified in a study by Rodriquez. In his study of cultural differences in the north side of Lansing, the study involved two hundred subjects which were divided into four groups: Chicano parents, Chicano students, Anglo parents and Anglo students. The area of the study involved the following schools: C. W. Otto Junior High, Pattengill Junior

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[135]McKinney, Developmental Psychology: The Adolescent and Young Adult, p. 162.

[136]Stone and Church, Childhood and Adolescence, p. 441.

[137]McKinney, Developmental Psychology: An Adolescent and Young Adult, pp. 160-61; see also Edgar Z. Friedenberg, The Vanishing Adolescent (New York: Dell Publishing Co., Inc., 1959).

High and Eastern High School. An important finding of the study was the destruction of a familiar myth, the importance of procrastination or the importance of the word "mañana" for the people of Mexican descent. The results showed that 54 percent of the Anglo subjects and only 50 percent of the Chicano subjects put off for tomorrow things that are not of great importance. Also Rodriquez found that Anglos showed more attachment to space they are living in than Chicanos which contrasts with the assumption that Chicanos feel deeply identified with their "barrio." This may be related to the findings that a greater percentage of Chicanos work outside their neighborhood than Anglos; there is greater mobility with Chicano parents (84% of the Anglo parents were born in Michigan and only 7% of the Spanish speaking parents); and the Chicano students changed schools a greater number of times.[138]

In regard to the value of work based on quality, competitiveness, promotion, responsibility and organization, the Anglos show a positive attitude toward these sets of values. The Chicano students were very close to the Anglo group in regard to the value of work, but the Chicano parents were not. Rodriquez considers these values as goals of a higly industrialized society and the students are reflecting these values. In examination of the relationship between parents and their children, the results indicate that 90 percent of

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[138]Saturnino G. Rodriquez, "A Study of Cultural Differences of Anglos and Chicanos in the North Side of Lansing and Other Essays" (Lansing, Michigan: El Renacimiento, [1977]).

the Chicano parents and 74 percent of the Chicano students consider the mutual relationship as being very good. The results of the Anglos was lower, for example, it was 68 percent for the Anglo parents. For the relationship among neighbors, the students of both groups were much higher than both groups of parents (52 percent and 20 percent respectively).[139]

While there were no significant differences between the groups as to the usefulness of learning, the Chicano parents had the highest positive attitude toward learning in the schools. Differences were found in attitude toward Spanish-speaking people and their culture. Rodriquez concluded that the school has a principal role in creating a more positive attitude for all groups which would involve awareness, acceptance, and involvement.[140]

Although there are cultural, individual, and even family differences, it can be generally said that adolescence, and especially early adolescence, is a challenging and sometimes trying time for both parent and child. For as Conger states:

> . . . the difficulties of this period appear to be increasing--partly as a consequence of continuing changes in the family itself and in its relations to society, and partly as a consequence of the accelerated rate of these changes.[141]

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[139] Ibid.

[140] Ibid.

[141] John Janeway Conger, "A World They Never Knew: The Family and Social Change," Twelve to Sixteen, eds. Jerome Kagan and Robert Coles (New York: W. W. Norton and Company, Inc., 1972), p. 197.

Blos says that "everything that is typical for middle or even late adolescence seems to be happening at a younger and younger age.[142] Coddington expresses concern and agrees with Toffler that young people are faced with many more problems and decisions than older people used to face at the time they were adolescents.[143]

In dealing with the adolescent and family stress from a psychiatric point of view, Sobel considers it important to consider the interpersonal relationships and individual patterns of the whole family. He also wants to know what life changes have occurred to alter the family's concept of space, time, personal relationships and values. In order to determine the life changes, he used the Holmes and Rahe questionnaire for the adults and Coddington's questionnaire for the adolescents.[144] The usefulness of the questionnaire according to Sobel:

> . . . lies in the fact that it focuses attention upon the total life situation of the adolescent and makes explicit to him and his family the hypothesis that adolescent problems occur in a matrix over which he may or may not have control.[145]

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[142]Peter Blos, "The Child Analyst Looks at the Young Adolescent," Twelve to Sixteen, ed. Jerome Kagan and Robert Coles (New York: W. W. Norton and Company, Inc., 1972), p. 55.

[143]Coddington, "The Significance of Life Events as Etiologic Factors in Diseases of Children II--A Study of a Normal Population," p. 212.

[144]Raymond Sobel, "Adolescence and Family Stress: A Clinician's Approach," Current Issues in Adolescent Psychiatry, ed. Joseph C. Schoolar, Ph.D., M.D. (New York: Brunner/Mazel Publishers, 1973), pp. 53-64.

[145]Ibid., p. 58.

After the family examines the Life Change Units, the attitude of the whole family toward the reason why the adolescent was expelled from high school may change from an attitude of blaming others to an attitude of tolerant understanding.[146]

Selye maintains that stress causes wear and tear in the body. He also says man must use his intellect to understand and deal with stress.[147] To Torrance, educators could learn from Selye's contribution. Torrance considers stress as those forces both internal and external which interfere with a person's mental functioning. From an educational point of view, the child must constructively use his intellectual functioning in adapting to stress.[148]

Mechanic studied graduate students under a stressful situation, taking examinations for Ph.D. candidacy. The study was descriptive and showed how students came to terms (adapted) to the testing according to group interaction with the students, their families, and the individual ways of coping. The conclusion was that stress was dependent on the individual himself, the group and the situation itself. While qualitatively different, combat soldiers and students

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[146]Ibid., pp. 58-59.

[147]Hans Selye, M.D., The Stress of Life (New York: McGraw-Hill Book Company, revised edition, 1976).

[148]E. Paul Torrance, Constructive Behavior: Stress, Personality, and Mental Health (Belmont, California: Wadsworth Publishing Company, Inc., 1975), p. 46.

were faced with learning what stimuli interferred with adaptation and how specifically to deal with them.[149]

Frymier states that youths are faced with many pressures--family, psychological, economic, peer, and physiological. He points out that there is a point where the student is adversely affected by stress and achievement level falls off. Parents and teachers need to think in terms of optimal rather than maximal pressure, for too much pressure actually affects achievement in negative ways.[150]

In sum, this section presented the nature of the adolescent and his growth and development. The adolescent is going through internal changes both physiological and psychological. He is also developing socially especially in reference to his family, peers, and school life. It was pointed out that the adolescent is not only growing and developing internally, but must deal with his external environment which is rapidly changing.

The next section is concerned with the changes that are affecting the adolescent both internally and externally and the implication for education.

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[149]David Mechanic, Students Under Stress: A Study in the Social Psychology of Adaptation (New York: The Free Press of Glencoe, A Division of the Macmillan Company, The Crowell-Collier Publishing Company, 1962).

[150]Jack R. Frymier, "The Need for an Optimal View of Pressure," Theory Into Practice XIII (December, 1974), 362-63.

IMPLICATIONS FOR EDUCATIONAL ACHIEVEMENT

This section presents implications for education of change and life changes as they affect the adolescent in reference to his growth and development.

Stress comes about in response to many factors. The problems of the twentieth century family life have great impact upon the emotional status of children. It is important to have insights into the adjustment problems of students. External stress along with the problems of adolescent development may lead to illness or lack of achievement. The response to stress may be an attitude of indifference or even aggression, which is the child's way of fighting back. Fleming states in regard to stress: "the person cannot produce at his greatest efficiency."[151] Teachers must help children adjust to the many problems of living and growing.[152]

The satisfaction of needs of the individual is important for good mental health. The lack of satisfaction of needs hinders the developmental process. Since some of the adolescent needs are identity and peer adjustment, the teacher must understand behaviors and help the adolescent establish a feeling of identity by recognizing his uniqueness. Furthermore, teachers should help the adolescent think well of himself and promote effective social interaction.[153]

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[151]Robert S. Fleming, "Spilling Over: A Further Look at Pressures," Children Under Pressure, eds. Ronald C. Doll and Robert S. Fleming (Columbus, Ohio: Charles E. Merrill Books, Inc., 1966), p. 70.

[152]Ibid., pp. 61-70.

[153]Harold W. Bernard, Mental Health in the Classroom (New York: McGraw-Hill Book Company, 1970), pp. 50-108.

Schools can help with students under stress by expressing a sense of caring and a sense of commitment to people. Schools that respect and trust the students are the schools that value humanism. The student must be helped in developing his self worth and given responsibility and opportunities to be creative and a chance to contribute to others.[154]

According to Silberman, the goal for educators should be to help students develop knowledge and skills so that they can make sense out of their school experiences. Humane teachers will consider the students' growth and development.[155] According to Holt students learn out of interest and curiosity and they ought to be in control of their own learning.[156]

Toffler says if children are to adapt themselves to change, schools must help them see the possibilities and probabilities of tomorrow. The adaptive individual is one who is responsive to the future; he is one who has a curiosity to know the future and problems of tomorrow.[157] Education must prepare children for a radically different world from what they know today. The purpose of education

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[154]Robert S. Fleming, "Some Priorities," Children Under Pressure, eds. Ronald C. Doll and Robert S. Fleming (Columbia, Ohio: Charles E. Merrill Books, Inc., 1966), p. 98.

[155]Charles E. Silberman, Crisis in the Classroom: The Remaking of American Education (New York: Vintage Books, A Division of Random House, 1971), pp. 335-36.

[156]John Holt, How Children Learn (New York: Dell Publishing Company, Inc., 1967), p. 153.

[157]Alvin Toffler, Future Shock (New York: Bantam Books, 1970), pp. 423-26.

is "to help the learners cope with real-life crises, opportunities and perils."[158]

According to Rogers, "the aim of education must be to develop individuals who are open to change."[159] That is, schools must develop the creative student who is open, aware, and accepting of change and is in the process of change. There must be a climate of personal growth so that the creative capacities are nourished. Also schools should facilitate self-directed learning.[160]

Kelley makes the point that schools should be a real place where students are involved and someone cares for them, in other words, a place of acceptance not rejection. Accepting the fact that human beings are unique would make school a better place.[161]

Conditions of stress, according to Torrance, could be caused by a broken home, failure in studies, or not getting along with peers. That is, "any stimulus or force that changes an organization in some significant way for better or for worse may be regarded as stressful."[162] In dealing with stress, the individual whose mental

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[158]Alvin Toffler, "The Psychology of the Future," Learning for Tomorrow, ed. Alvin Toffler (New York: Vintage Books, a Division of Random House, 1974), p. 13.

[159]Carl R. Rogers, Freedom to Learn (Columbus, Ohio: Charles E. Merrill Publishing Company, 1969), p. 304.

[160]Ibid.

[161]Earl C. Kelley, In Defense of Youth (New Jersey: Prentice-Hall, Inc., 1962), pp. 92-112.

[162]Torrance, Constructive Behavior: Stress, Personality, and Mental Health, p. 19.

abilities or operations are functioning is the one who can constructively cope with stress.[163]

Combs points out that behavior is the product of perception. Generally speaking, the adequate person is one who has achieved a high degree of need satisfaction. The purpose of education is to develop an adequate and intelligent individual. To Combs, the adequate person is one who perceives himself in positive ways, open to his experience, and accepting of self and others.[164] Educators must "assume the responsibility for helping our students to perceive themselves in ways that will be more satisfactory to them and, through the resulting behavior, to others."[165]

According to Maslow, Combs, Kelley, and Rogers, the implication for education is to develop adequate persons. It means that schools must aid in a student's becoming which is a matter of continuing growth. This view realizes the potential of every child for growth and development.[166]

A philosophy for schools should be one that helps students in terms of what they are capable of becoming; the goal of education is

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[163] Ibid., p. 191.

[164] Combs, Individual Behavior, pp. 239-77.

[165] Ibid., p. 377.

[166] "The Process of Becoming," Perceiving, Behaving, Becoming: A New Focus for Education, ed. Arthur W. Combs (Washington, D.C.: Association for Supervision and Curriculum Development, NEA, 1962), p. 236.

the development of human potential.[167] In a society changing as rapidly as ours and allowing students to become, it may be important to note that children may not have one but many potentials.[168]

In sum, this section has been concerned with the need for educators to help students adapt to change and develop their potential.

The final section contains a summary of the six sections.

SUMMARY

The chapter pointed out the importance of changing in our society and how man must be open to change. Rapid change places demands on the individual and he must learn how to adapt. Good mental health means man must become and develop into an adequate, fully functioning, or self-actualized person. Changes in life's circumstances are related to the way man adapts. While the Schedule of Recent Experience is related to illness in adults, life changes in the adolescent as measured by the Life Event Record are related to illness and performance of the young person.

Adolescence is an important time in the developmental process. It is a time when he is not a child and not quite an adult. There are many changes going on in the adolescent which are physiological,

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[167]Mario D. Fantini, Milton A. Young, and Freda Douglas Bernotavicz, Designing Education for Tomorrow's Cities (New York: Holt, Rinehart and Winston, Inc., 1970), pp. 33-34.

[168]Gardner Murphy and Lois Barclay Murphy, "Children: Their Potentials," Childhood Education (April 1971), 356-59.

psychological, and social. With the many changes going on in the environment, the adolescent must face these changes along with the changes going on within himself. Thus the stress of modern living added to the changes within the individual may create problems of adapting and coping in the adolescent.

The lesson for educators is clear. They must become more humane. They must help, sometimes guide, and allow students to become. That is, the goal of education is similar to the goal of mental health for the individual. Educators must help students adapt to stress and modern living, allow students to become what they potentially are and help them to cope constructively with the changes in their lives.

Chapter 3

DESIGN OF THE STUDY

INTRODUCTION

The purpose of this chapter is to describe the population, the sample, the procedures used to conduct the study, and the school performance variables. The design of the study and the instrumentation are presented.

POPULATION

The population for this study consisted of eighth and ninth grade students of the 1974-75 school year at C. W. Otto Junior High School, in the Lansing School District, Lansing, Michigan.

C. W. Otto Junior High School has three grades--seventh, eighth, and ninth, and is one of five junior high schools in the district. Its boundaries extend from the northern part of the city into the surrounding townships. The socio-economic background of the students is approximately 10 percent upper class, 60 percent middle class, and 30 percent lower class.

The following table represents the quantitative characteristics of the population according to grade, sex, and ethnic background.

TABLE 3.1.--Population: Grade, Sex, and Ethnic Background, C. W. Otto Junior High School

Grade	Sex	Ethnic Groups					Subtotal	Total
		Caucasion	Black	Spanish Surname	American Indian	Other		
Eighth	Male	197	29	23	2	0	251	489
Eighth	Female	176	34	27	1	0	238	
Ninth	Male	203	24	23	2	1	253	481
Ninth	Female	177	23	25	2	1	228	
Total		753	110	98	7	2		970
Percent		77.63	11.34	10.10	.72	.21		100

THE SAMPLE

A simple random sample of 300 eighth and ninth grade students equally divided according to males and females were asked to participate with parental approval in this study. A sample of 271 (n = 271) was used for this study. Twenty-two who did not participate in the study were unable to because of lack of parental permission (11) or were either absent from school or had moved (11). Seven students who did participate were deleted because they had insufficient data, had improperly marked the questionnaire, or had indicated their unwillingness to answer some or all of the questions. The sample consisted of 90 percent of the students who were asked to be in the study.

Table 3.2, on the following page, displays the quantitative characteristics of the sample according to grade, sex, and ethnic background.

PROCEDURES

Permission to do this study was granted by Mr. Vern Chapman, Principal of C. W. Otto Junior High School (see Appendix A). The sample consisted of a simple random selection of 300 eighth and ninth grade students.[1] There were 150 students for each grade which were sub-grouped equally by sex--75 males and 75 females. Students involved in the study were required to have parental approval. Letters

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[1]D. W. Owen, Handbook of Statistical Tables (Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1963), pp. 519-38.

TABLE 3.2.--Sample: Grade, Sex, and Ethnic Background, C. W. Otto Junior High School

Grade	Sex	Ethnic Group					Subtotal	Total
		Caucasion	Black	Spanish Surname	American Indian	Other		
Eighth	Male	54	6	8	0	0	68	137
Eighth	Female	47	12	9	0	1	69	
Ninth	Male	54	5	4	1	0	64	134
Ninth	Female	59	7	4	0	0	70	
Total		214	30	25	1	1		271
Percent		78.97	11.07	9.22	.37	.37		100

were sent April 19, 1975, to the parents of those students who were randomly selected for the study (see Appendix A). Students with a Spanish surname were sent an additional letter in Spanish (see Appendix A).

The questionnaire, the Life Event Record for the Junior High, was modified by omitting five questions to make it more appropriate for junior high school students (see Appendix C). The questions omitted dealt with jail sentences of parents (two questions) and pregnancy (three questions) and were too few to affect the validity and correlations of the study, in the judgments of the research consultants.

Of the eighth grade students at Otto, 58 percent were reading at fourth grade level or below when they began seventh grade. No such data were available for the ninth grade students. To make the questionnaire more readable, the two reading consultants at C. W. Otto suggested that the questionnaire be: (1) double spaced, (2) that specific words be explained and defined, and (3) that the test should be read to the students. A tape was made and played during the administration of the test. The tape, which lasted 10 minutes and 55 seconds, consisted of simply the reading of each question followed by this statement: "Place an X if this event happened to you in the past year." Words designated by the reading specialists as too difficult were placed on the blackboard, and were defined and explained.

Next there was an explanation of the procedures and rules for answering the questionnaire. Instead of the names, five random

numbers were placed on each student's questionnaire so that data concerning his or her school performance could be collected.[2]

A pilot study was conducted prior to the main study. The pilot study involved seven students at C. W. Otto Junior High School, in an effort to determine the length of time for the test and to try out such procedures as the explanations, directions, and usefulness of the cassette tape. It was determined that the use of the tape would be helpful to those students with reading difficulties and help to insure standardized conditions during the administration of the questionnaire. After tabulating the results of the questionnaire, variations were obtained in the ways in which each student marked his questionnaire.

The questionnaire was administered on May 20 and 21, 1975, to the ninth and eighth graders, respectively. There were five sessions each day of a half hour each with 30 students in each session. The sessions were held in the morning so as not to conflict with the lunch program. Thirty students were considered to be a reasonable number of respondents for each session.

Each teacher received a list of students and the time for the students to come to the cafeteria. Each student also received a counselor's appointment slip (the morning of the testing) directing him to come to the cafeteria at a specified time to complete the questionnaire.

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[2]Rand Corporation, A Million Random Digits with 100,000 Normal Deviates (Glencoe, Illinois: Free Press, 1955).

In the cafeteria students were given an explanation and directions. They were told their answers would remain anonymous and that the numbers on the questionnaire were for research purposes only. They were given the questionnaire and told to read and follow the questions along with the cassette tape. The explanations were given while an additional proctor was present to help pass out and collect the questionnaire.

The Life Event Record was administered as near as possible to the end of the year so that the students' life changes could be correlated with the students' last marking period for that year.

Since there were absences during the administration of the test, make up sessions were held each morning during a two week period.

The questionnaire was individually scored according to raw score (number of life events) and weighted scores (Life Change Units). Difference (change) scores for the school performance variables of the 1973-74 and 1974-75 school years were obtained and placed on data cards. Also actual scores for each of the years were included.

SCHOOL PERFORMANCE

School performance in this study refers to the social and academic adjustment to school. Moreover school performance is measured by academic achievement and social behavior in the classroom and in the total school setting. For a further explanation

of the variables in school performance, the following descriptions are offered:

Grade Point Average Change Scores (GPA Change Score): A difference (represented by a change or gain score) between the 1973-74 GPA and the 1974-75 GPA was found for each student. Hence a positive change in GPA from one year to the next means an improvement.

Citizenship Average Change Scores (Citizenship Change): A difference or change (gain) score was calculated for each student between the 1973-74 citizenship grade averages and the 1974-75 citizenship grade averages. A mistake was made in the change score values. The change score or difference in citizenship was given a negative value if the change score increased and a positive value if the change score decreased; for an increase (or larger numerical value) in the citizenship grade means poorer citizenship and a decrease (or lower numerical value) in citizenship grade means better citizenship. Thus a positive score in citizenship from one year to the next means an improvement.

Absence Change Scores (Absence Change): The difference between the number of half-day absences for the 1973-74 school year and the number of half-day absences for the 1974-75 school year was obtained as a change score for each student.

Demerit Points from the Conduct Code Change Score (Demerit Points): Demerit points which are numerical and are given for an infraction of the rules based on the conduct code were summed so that a change (gain) score could be obtained between the 1973-74 and 1974-75 school years.

Total Reading Stanford Achievement Test (SAT) Change Score (Total Reading Change): The total reading change score based on an average of two tests in the Reading Battery--Reading Comprehension and Vocabulary--was found by using grade equivalent scores (year and month) for the 1973-74 and 1974-75 school years.

Total Mathematics Stanford Achievement Test (SAT) Change Score (Total Mathematics' Change): The mathematics' change score based on an average of three tests in the mathematics' battery--Concept, Computation, and Applications--was found by using grade equivalent scores (year and month) for the 1973-74 and 1974-75 school years.

Actual Scores: Actual scores for the six variables--grade point average, citizenship grade average, number of absences, demerit points, and the total Stanford Achievement Test scores in mathematics and reading were also used.

The Advanced Stanford Achievement Test was administered by the Lansing School System to the students at C. W. Otto Junior High School in May of 1974 and 1975.[3] The Stanford Achievement Test is a battery of tests that is designed to measure the important knowledges, skills, and understandings commonly acceptable as desirable outcomes of the major academic areas of a school's curriculum,

With regard to its validity, the Stanford Achievement Test was prepared and developed through the analysis of the most widely

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[3]Stanford Achievement Test (New York: Harcourt, Brace, Javanovich, Inc., 1973 edition).

used textbooks in various subject areas, a wide variety of courses of study, and the research of the literature pertaining to children's concepts, experiences, and vocabulary.[4] The 1973 edition is the fifth revision but there was a massive revision and the development of new norms. In reviewing the 1973 revision, Lehmann considers the reading test not a phonics test because it is de-emphasized since the emphasis is on the gathering of information from the reading exercises.[5] He also believes the mathematics test stresses meaning and understanding rather than being a computation test, which also takes into consideration reading ability.[6] According to Lehmann, "There is no denying the fact that the 1973 Stanford does in fact measure today's curriculum in the core subjects."[7] An improvement according to Lehmann would be the use of experts in the major content areas to review the subtests.[8]

The reliability coefficients for the Stanford Achievement Test were found by the Spearman-Brown Formula and the Kuder-Richardson Formula for each subtest in the battery. The range of coefficients for both reliability measures were from .87 to .95.[9]

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[4]Richard Madden, and others, Norms Booklet Form A, Advanced Battery Stanford Achievement Test (New York: Harcourt Brace, Javanovich, Inc., 1973), p. 5.

[5]Irvin J. Lehmann, "The Stanford Achievement Test Series, 1973," Journal of Educational Measurement XII (Winter, 1975), p. 299.

[6]Ibid., p. 300.

[7]Ibid., p. 301.

[8]Ibid.

[9]Madden, and others, Norms Booklet Form A, p. 13.

Norm groups by grade level for the Stanford Achievement Test were made comparable to the normal distribution of mental ability using the Otis-Lennon Mental Ability Test (OLMAT).[10] Lehmann states with much confidence that the reliability for various subtests is respectable.[11]

LIFE EVENT RECORD

The Life Event Record is a questionnaire which lists various events or experiences both positive and negative that children--pre-school, elementary, junior high school, senior high school children--go through that require some sort of coping, adaptation, or readjustment. (See Appendix C). The events were quantified as to the relative value and rank order in regard to the amount of the social and psychological readjustment required for each event. The content for the Life Event Record was developed from the literature and from experience with normal as well as abnormal children.

The method used for quantifying the significance of various life events was introduced by Holmes and Rahe, and Masuda and Holmes, who used the Social Readjustment Rating Scale.[12] The method of Coddington to quantify the life events was the rating by 243 professionals--131 teachers, 25 pediatricians, and 87 mental health workers.

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[10] Ibid., p. 8.

[11] Lehmann, "The Stanford Achievement Test Series 1973," p. 304.

[12] R. Dean Coddington, "The Significance of Life Events As Etiologic Factors in the Diseases of Children I--A Survey of Professional Workers," Journal of Psychosomatic Research XVI (February, 1972), p. 7.

The three professional groups were asked to rate the life events as to the relative degree of necessary readjustment for children of four different age groups. One event, the birth of a brother or sister, was arbitrarily set at 500 for comparison with the other events. After the collection of the data, the geometric rather than arithmetic mean, which was divided by ten, for each of the life events was obtained. These were called Life Change Units (LCU's).[13]

The professionals' rank order lowest correlation was 0.846 for the pre-school group, and the correlations for the junior high school group ranged from 0.954 to 0.960. The 243 professionals agree essentially on the relative importance of all items and there were no significant differences in the rank order.[14]

In order to study how the three professional groups valued each item for the amount of readjustment Coddington changed the investigation to two groups: (1) the mental health professionals, divided by years of experience, and (2) differences in valuing among the three professional groups. Among the mental health professionals, the value of only nine out of the 144 life events showed a significant difference using the Kruskal-Wallis analysis of variance test.[15] Among the three professional groups using the Kruskal-Wallis test to find differences and the Mann-Whiteny U-Test to determine which pairs were in disagreement, there were 71 statistically significant differences between ratings of the 144 life events. While the pediatricians and

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[13]Ibid., pp. 8 and 12.

[14]Ibid., p. 12.

[15]Ibid.

mental health professionals disagreed only twice, the teachers rating behavior made consistently higher estimates for readjustment in regard to older children with almost all events.[16]

The amount of social-psychological readjustment for a child is determined by summing the Life Change Units (LCU's).

After obtaining values for each item in terms of Life Change Units, the Life Event Record was given to a normal population to determine the age differences and the influence of various variables such as sex, race, and socio-economic class. While parents completed the pre-school and elementary questionnaire, individuals in junior and senior high school completed their questionnaires. The sample consisted of those children in the Columbus, Ohio, area with a racial proportion approximating the state of Ohio and with a balance of age and social class. Subjects indicating serious illness were excluded for a total N of 3,526 (989 in the junior high group and 887 in the senior high group).[17]

The average number of life events and the average amount of social readjustment based upon the Life Change Units (LCU's) obtained from the rating of the professionals were calculated for each of the age groups. Using correlations between all groups, a difference with age existed, but no differences were found with sex, race, or social

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[16]Ibid., pp. 8 and 17.

[17]R. Dean Coddington, "The Significance of Life Events as Etiologic Factors in the Diseases of Children--II A Study of a Normal Population," Journal of Psychosomatic Research XVI (June, 1972), 205-206.

class.[18] The average number of life events for the total group was 3.37 and for each of the four age groups there were the following: pre-school (1.73), elementary (2.63), junior high (4.11) and senior high (4.71).[19] The average number of Life Change Units (LCU's) for the total groups was 151.62 and for each of the four age group there were the following: pre-school (64.99), elementary (102.80), junior high (195.66) and senior high (226.80).[20]

As a result of the study of a normal population, the Life Event Record was developed based upon an age-related curve of the average social readjustment scores.

METHOD OF STATISTICAL ANALYSIS

The statistical method for analyzing the relationships between life changes and the school performance variables was the Pearson-Product-Moment Correlation. Correlation coefficients were based on the total sample (n = 271) for testing the hypotheses involving correlations. For further analysis separate correlations for each grade were completed. Partial correlations between the year two scores and the life change scores were used for further analysis in order to control for the influences of the year one scores.

A multiple correlation was used for the total sample for determining the relationship between life change and the combination of the second year school performance variables while controlling for the performance variables in the first year.

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[18] Ibid., p. 209.

[19] Ibid., p. 210.

[20] Ibid.

The correlation hypotheses were tested to see if the probability of the correlations were significantly larger than zero.

The significance for each of the statistical analyses was selected at the .05 alpha level.

SUMMARY

The sample (n = 271) for the study consisted of C. W. Otto Junior High students randomly selected according to grade and sex for the 1975 school year. The life changes and adjustment of the students were measured by the Life Event Record as modified for this study. The Life Change Units were correlated with six performance variables: grade point average, citizenship grade average, number of half-day absences, demerit points on the Conduct Code, Total Reading Stanford Achievement Test scores, and Total Mathematics Stanford Achievement Test scores. The changes (gain scores) between the last school year's performance (1975) and the previous school year's performance (1974) were calculated.

A multiple correlation was calculated for the total sample with further analysis by grade.

The analysis of variance was used to study differences between grade and sex.

Chapter 4 will contain the analysis of the data as related to the hypotheses and present the findings of the study.

CHAPTER 4

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this study was to investigate the possible relationships between life events and school performance of eighth and ninth grade students. The data obtained consist of simple, partial and multiple correlations and the analyses of variance.

Chapter 4 presents the analyses for this study in ten sections. First, simple correlations between life change and school performance for the total sample are presented, and the first six hypotheses are accepted or rejected. Second, the total sample was subdivided according to eighth and ninth grade students to further explain the degree of relationship of the total sample. Third, partial correlations are used for another analysis of the first six hypotheses. Fourth, a multiple correlation is presented and the seventh hypothesis is examined. For the fifth section, the analysis of variance is used to see if any differences exist between the life changes of the eighth and ninth grade students and the males and females. The eighth and ninth hypotheses are included in this section. The next section is concerned with differences between two items, separation and divorce, which are called the separation variable. The next three sections deal with the correlations between life change and the first and the second year variables as seen separately and the correlations between the first and the second year

variables with each other for the total sample, the eighth and the ninth grade subsamples respectively. Lastly, the raw score and the adolescent weights for the life event items are discussed.

SIMPLE CORRELATIONS BETWEEN LIFE CHANGE AND SCHOOL PERFORMANCE FOR THE TOTAL SAMPLE

The first six hypotheses are presented and the Pearson product-moment coefficients between Life Change Unit scores and the six performance variables in the form of change scores are reported. The hypotheses are based on the total sample. The hypotheses are stated in null form and are accepted or rejected on the basis of the data presented in Table 4.1.

Table 4.1

Simple Correlations of Life Change with Change Scores for the Total Sample

Variable	r	Significance
Grade Point Average Change	-.128	.04*
Citizenship Change	-.129	.04*
Absence Change	.067	.29
Demerit Points Change	.220	.001**
Total Reading Change	.002	.98
Total Mathematics Change	-.150	.04*

*significant ($p < .05$)

**significant ($p < .01$)

The first null hypothesis refers to the relationship between the life events and the change in grade point averages for the total sample.

Hypothesis 1: There will be no significant correlation between Life Change Unit scores and change in achievement levels as measured by the students' grade point averages.

The correlation for the total sample was -.128. The null hypothesis was rejected and the first hypothesis was accepted at the .04 level of significance.

The correlation for grade point average change was negative. This means that there was a relationship for the total sample between higher life change scores and a change in grade point averages. Students who have higher Life Change Unit scores tended to earn lower grade point averages than the previous year.

The second null hypothesis refers to the relationship between life events and the change in citizenship scores for the total sample.

Hypothesis 2: There will be no significant correlation between Life Change Unit scores and change in citizenship behavior as measured by the students' citizenship grade averages.

The correlation for the total sample was -.129. The null hypothesis was rejected and the second hypothesis was accepted at the .04 level of significance.

The correlation for citizenship change was negative which means that there was a relationship for the total sample between the high life change scores and a change in citizenship grade averages. Thus, students who have higher life changes have lower citizenship

grades in comparison to the previous year. It must be noted that in calculating difference scores a positive value was given for an improvement in citizenship. Hence a negative correlation will support the hypothesis.

The third hypothesis examines the relationship between life events and a change in absences.

Hypothesis 3: There will be no significant correlation between Life Change Unit scores and the change in the number of absences as measured by the students' attendance records.

The correlation for the total sample was .067. The null hypothesis cannot be rejected since the significance level was .29. The correlation for absence change was positive but the failure to reject the null hypothesis implies that there was no relationship between a change in the number of absences and life events for the population sampled.

The fourth null hypothesis expresses the relationship between life events and the disciplinary action measured by numerical infractions received in reference to the Conduct Code.

Hypothesis 4: There will be no significant correlation between Life Change Unit scores and change in the number of demerit points on the Point System as measured by the Conduct Code.

The correlation for demerit points change was .220. The null hypothesis was rejected and the fourth hypothesis was accepted at the .01 level of significance.

The correlation for demerit points change was positive. Thus, there was a relationship for the total sample between high life change scores and a change in demerit points. Students who have

higher Life Change Units receive more demerit points on the Conduct Code in school than students who have less Life Change Units.

The fifth hypothesis reports the relationship between life events and Reading Change scores.

Hypothesis 5: There will be no significant correlation between Life Change Unit scores and change in Total Reading scores as measured by the Stanford Achievement Test (SAT).

The correlation for the total sample was .002. The null hypothesis fails to be rejected with an alpha level of .98.

The correlation for Reading Change was positive and failure to reject the null hypothesis means that there may be no relationship between Life Change scores and a change in reading scores in this population.

The sixth hypothesis related Mathematics Change with Life Change scores.

Hypothesis 6: There will be no significant correlation between Life Change Unit scores and change in Total Mathematics scores as measured by the Stanford Achievement Test (SAT).

The correlation for the total sample was -.150. The null hypothesis was rejected at the .04 level of significance. The correlation for Mathematics Change was negative. This means that there was a relationship between life events and Mathematics Change scores. Students who have high life change scores receive lower mathematics achievement test scores than they received for the previous year.

Four of the six hypotheses are supported for the total sample. This means that there was a relationship for this sample between life events and school performance. That is, students who have

higher changes receive lower grades, lower citizenship grades, more demerit points and lower mathematical test scores on the Stanford Achievement Test than in the previous year.

SIMPLE CORRELATIONS BETWEEN LIFE CHANGE AND SCHOOL PERFORMANCE FOR THE EIGHTH AND THE NINTH GRADES

Further analysis of the total sample was completed to determine the degree of relationship for the eighth and ninth grade students. The results presented in Table 4.2 show significant correlations in the eighth grade subgroup but not for the ninth grade subgroup.

Table 4.2

Simple Correlations of Life Change with Change Scores for the Eighth and Ninth Grades

Variable	Eighth Grade		Ninth Grade	
	r	Significance	r	Significance
Grade Point Average Change	-.388	.000**	.131	.14
Citizenship Change	-.227	.01**	-.033	.72
Absence Change	.190	.03*	-.060	.50
Demerit Points Change	.363	.000**	.073	.43
Total Reading Change	-.059	.57	.024	.80
Total Mathematics Change	-.250	.02*	-.066	.51

*significant ($p < .05$)

**significant ($p < .01$)

Grade point average change was correlated -.388 for the eighth grade subgroup and .131 for the ninth grade subgroup. The former was negative and was significant at the .01 level. The latter was positive and was not significant ($p = .14$).

The correlation between life change and citizenship change was -.227 and was significant at the .01 level for the eighth grade subgroup. However, the ninth grade's correlation was -.033 and was not significant ($p = .72$).

The correlation between absence change and life change was .190 for the eighth grade students which was significant at the .03 level. For the ninth grade the correlation was -.060 and was not significant ($p = .50$).

The correlation in the eighth grade subgroup between life change and demerit points of infraction was .363 and was significant at the .01 level. The ninth grade subgroup correlated .073 and was not significant ($p = .43$).

Total Reading Change scores did not significantly correlate with life change for either subgroup--eighth or ninth. Thus, Reading scores on the Stanford Achievement Test are not correlated with Life Change Units for this sample.

The Total Mathematics Change scores' correlation coefficient was -.250 and was significant at the .02 level for the eighth grade subgroup. The ninth grade subgroup's correlation coefficient was -.066 but was not significant ($p = .51$).

The eighth grade correlated significantly with all six variables except for Total Reading Change scores. The ninth

grade did not significantly correlate with any of the six variables.

The eighth grade correlations which range from .19 to -.39 can be considered to be of meaningful size. The direction of the relationships support the conclusion that there is an inverse relationship between life changes and five of the school performance variables. However, in the ninth grade subgroup none of these correlations was significant.

PARTIAL CORRELATIONS BETWEEN LIFE CHANGE AND SCHOOL PERFORMANCE VARIABLES

This section uses partial correlations. It is another analysis of the six hypotheses. It also confirms what was found with change scores.

The analysis was done because there are problems with change (gain) scores. Gain scores or a difference score between the first year and second year performance do not take into consideration the ceiling effect. The ceiling effect refers to the range of difficulty on achievement tests or performance variables.[1] School performance does not measure completely what a student knows. Gain scores assume equal intervals at all points of the performance variables. For example, a student who scores 3.95 one year cannot gain that many points the second year if 4.00 is the highest grade point one can earn. Furthermore, gain scores have the regression effect because

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[1]Walter R. Borg and Meredith D. Gall, Educational Research--An Introduction (New York: David McKay Company, Inc., 1971), pp. 406-410.

there are errors of measurement in the performance variables, and the variables are correlated with each other.[2] The unreliability of gain scores can be corrected by the use of partial correlations.[3] In this analysis the first year variables were held statistically constant. Hence the partial correlations between life change and the second year variables with the first year variables held constant are presented in Table 4.3.

For the total sample, the partial correlations for the second year grade point average variable was -.147 and was significant at the .05 level. When the total sample was subdivided by grade, the eighth grade subgroup was -.352 and significant at the .01 level. But for the ninth grade subgroup the correlation was .078 and was not significant ($p = .46$). The grade point average variable when controlled for the first year supports the first hypothesis. For the total sample there was a significant negative correlation between life change and grade point average. The ninth grade subgroup was positively correlated and was not significant. The eighth grade was negatively correlated and was significant. Thus for the total sample and for the eighth grade subgroup, when subdivided, students who have high life change tend to have lower grade point averages.

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[2]Ibid. See also Carl Bereiter, "Some Persisting Dilemmas in the Measurement of Change," Problems in Measuring Change, ed. Chester W. Harris (Madison: The University of Wisconsin Press, 1963).

[3]Ibid.

Table 4.3

Partial Correlations Between Life Change and the Year Two Variables with Year One Variables Controlled

Variable	Eighth Grade		Ninth Grade		Total Sample	
	Partial r	Significance	Partial r	Significance	Partial r	Significance
Grade Point Average 2	-.352	.001**	.078	.46	-.147	.05*
Citizenship Average 2	.224	.04*	.148	.16	.165	.03*
Absence 2	.163	.14	.014	.90	.084	.26
Demerit Points 2	.356	.001**	-.029	.79	.160	.03*
Total Reading 2	.038	.73	.174	.10	.129	.08
Total Mathematics 2	-.008	.94	-.064	.55	-.055	.46

*significant ($p < .05$)

**significant ($p < .01$)

The partial correlation for the citizenship variable was .165 and was significant at the .03 level for the total group. Thus there was a correlation between life change and the second year citizenship variable. It was positive and in the right direction to support the second hypothesis. A positive direction for the citizenship variable means an increase numerically which indicates unsatisfactory citizenship. For example, a one in citizenship represents excellent behavior and a five in citizenship represents unsatisfactory behavior. The eighth grade subgroup had a correlation coefficient for the citizenship variable of .224 and was significant at the .04 level. The ninth grade subgroup had a correlation coefficient of .148 and was not significant ($p = .16$). Hence for the total sample and the eighth grade subgroup when subdivided, life change was related to the citizenship variable. That is, students who had high life changes had poorer citizenship for the total group as a whole and for the eighth grade when it was subdivided.

For the second year absence variable, the partial correlations were not significant for the total sample or for either the eighth or ninth grade subgroups. The total sample's correlation was .084 ($p = .26$). The correlations for the eighth and ninth grade subgroups were .163 ($p = .14$) and .014 ($p = .90$) respectively. In using partial correlations there seems to be no relationship between life change and the number of absences for the total sample.

In regard to the second year variable of demerit points received for infractions concerning the Conduct Code, the total group's partial correlation was .160 and was significant at the .03

level. The partial correlation for the eighth grade subgroup was .356 at the .01 level of significance. The ninth grade subgroup's correlation was -.029 and was not significant ($p = .79$). The partial correlation for the second year variable concerning demerit points of infraction for the total sample and eighth grade when subdivided, supports the hypothesis. Students who have higher life changes receive more demerit points for the total sample. The degree of relationship was stronger for the eighth grade students than for the ninth grade students.

The second year variable correlations for the Stanford Achievement Test for the Total Reading and Total Mathematics Tests were not significant for the total sample. The correlation was .129 ($p = .08$) for the Total Reading and -.055 ($p = .46$) for the Total Mathematics Tests. Nor were eighth and ninth grade subgroups significant. For the Total Reading Test, the eighth grade's correlation coefficient was .038 ($p = .73$) and the ninth grade's correlation coefficient was .174 ($p = .10$). The mathematics test correlated for the eighth grade subgroup -.008 ($p = .94$) and the ninth grade subgroup correlated -.064 ($p = .55$). Thus for the partial correlations the Total Reading and Total Mathematics Tests of the Stanford Achievement Test do not seem to be related to life changes.

The partial correlations do confirm the hypothesis for the total group, although there is a stronger relationship in the eighth grade subgroup. That is in regard to partial correlations, the students who had high life change received lower grade point averages, lower citizenship grades and had more demerit points of infraction

than the previous year for the total sample and the eighth grade subgroup when the sample was subdivided.

MULTIPLE CORRELATIONS

A multiple correlation was used in order to determine the correlation between the combined second year variables and life change while controlling for the first year variable. The six school performance variables were the independent variables: grade point average, citizenship grade average, absences, demerit points on the Conduct Code, Total Reading on the Stanford Achievement Test and Total Mathematics on the Stanford Achievement Test. These variables for the second year with the first year variable held constant are used to predict the criterion (dependent) measure, life change. Thus the multiple correlation was the relationship between the Life Change Units and the best linear combination of the year two variables after controlling for the year one variables.

The following is the seventh null hypothesis and expresses a multiple correlation between life change and the second year variables while controlling for the first year variables.

Hypothesis 7: **There will be no significant multiple correlation between Life Change Unit scores and the year two variables controlling for the year one variables.**

The correlation presented in Table 4.4 was .2499 for the total sample. The null hypothesis was rejected and the seventh hypothesis was accepted at the .05 level of significance. This means a predicted Life Change Unit score based on the second year

variables while controlling for the first year variables would correlate .2499 with a student's actual Life Change Unit score.

Table 4.4

Multiple Correlations Between Life Change and the Year 2 Variables with Year 1 Variables Controlled

	Total Sample		8th Grade		9th Grade	
	F Significance		F Significance		F Significance	
Multiple R	.2499	2.36	.3917	3.30	.2543	1.46
Multiple R^2	.0625	(.05)	.1534	(.01)	.0647	(N.S.)

When the total sample was subdivided by grade, the eighth grade subgroup's multiple correlation coefficient between the Life Event Record and the second year variables was .3917 and was significant at the .01 level. The ninth grade subgroup's multiple correlation was .254 and was not significant. The multiple correlation and prediction of life change was significant for the sample as a whole and for the eighth grade subgroup.

ANALYSIS OF VARIANCE

To determine if there were any differences between the life changes of the eighth and ninth grade students, the analysis of variance was used. It was assumed that there would be no differences in the life changes between eighth and ninth grade students requiring another hypothesis.

The eighth null hypothesis is concerned with differences between the life changes of the eighth and ninth grade students.

Hypothesis 8: There will be no significant difference in Life Change Unit scores between eighth and ninth grade students.

Table 4.5 shows no significant difference between the means of the Life Change Unit scores for the eighth and ninth grade students. Thus, the null hypothesis cannot be rejected and it can be concluded that there were no differences between the life changes of the eighth and ninth grade students in the population.

Table 4.5

Analysis of Variance of Life Change Scores by Grade

Grade	Means	Number	Significance
Eighth	250.75	137	.99(NS)
Ninth	271.61	134	

Next, to determine if there were any differences between the life changes of males and females for the total sample the analysis of variance was used. A null hypothesis was used since it was assumed no difference would exist between males and females.

The ninth null hypothesis deals with differences between the effects of life changes upon males and upon females.

Hypothesis 9: There will be no significant difference in Life Change Unit scores between male and female students.

As presented in Table 4.6, there was no significant difference between the means of the Life Change Unit scores for the males

and females for the total sample. The null hypothesis cannot be rejected. This means there were no differences for the Life Change Units between males and females in the population.

Table 4.6

Analysis of Variance of Life Change Scores by Sex

Sex	Means	Number	Significance
Male	267.22	132	.99(NS)
Female	255.21	139	

SEPARATION AND DIVORCE VARIABLES

Another analysis is presented using the analysis of variance for two questions on the Life Event Record which are separation and divorce (questions 9 and 10, respectively). The two questions were combined and are called the separation variable. There was a significant effect for the separation variable at the .01 level as presented in Table 4.7.

Table 4.7

Analysis of Variance of Life Change Scores by Separation and Divorce

Group	Means	Number	Significance
None	231.77	227	.01(Sig.)
Divorced	379.00	20	
Separated	430.43	24	
Both	600.20	44	

Students who had experienced no separation or divorce in their family had a lower mean life change score than students who had experienced a separation and divorce in their family. The former mean was 231.77 and the latter was 600.20 as shown in Table 4.7. Students who had experienced separation in their family showed a higher mean score than students who had experienced a divorce in their family.

Consequently, students whose parents had separated or divorced during the past year had significantly higher life change scores than those students whose parents had not separated or divorced. The analysis of variance of life change scores by grade, sex, and separation variable are presented in Table 4.8.

SEPARATE CORRELATIONS FOR THE FIRST AND SECOND YEARS FOR THE TOTAL SAMPLE

Although this section does not relate to any of the hypotheses, it was considered to be of interest to show the correlations for the total sample between life change and the first and the second year school performance variables for each separate year without change scores. Also, correlations between the first and the second year school performance variables are discussed.

The separate correlations between the first and the second year's school performance variables and between the school performance for each separate year and life change are presented in Table 4.9 for the total sample. The correlation coefficients were not tested for significance. All the first and the second years'

Table 4.8

Analysis of Variance of Life Change Scores
by Grade, Sex, and Separation Variables

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance
Grade	20101	1	20101	.84	.999
Sex	12813	1	12813	.53	.999
Separation	1886639	3	628878	26.16	.001
Residual	6367586	265	24029		
Total	8287139	270			

Table 4.9

Simple Correlations Between Life Change and the First and Second Year School Performance Variables for the Total Sample

	Life Change	Grade Point Average 1	Grade Point Average 2	Citizen-ship 1	Citizen-ship 2	Absence 1	Absence 2	Points 1	Points 2	Reading 1	Reading 2	Math 1
Grade Point 1	-.30											
Grade Point 2	-.35	.84										
Citizen-ship 1	.35	-.74	-.65									
Citizen-ship 2	.40	-.70	-.77	.79								
Absence 1	.25	-.46	-.46	.30	.37							
Absence 2	.27	-.44	-.56	.34	.47	.71						
Points 1	.22	-.43	-.45	.56	.54	.34	.31					
Points 2	.31	-.46	-.59	.54	.65	.28	.38	.70				
Reading 1	-.25	.68	.64	-.43	-.49	-.19	-.24	-.26	-.30			
Reading 2	-.18	.69	.67	-.44	-.48	-.21	-.29	-.20	-.34	.88		
Math 1	-.22	.74	.67	-.50	-.52	-.21	-.30	-.26	-.32	.76	.73	
Math 2	-.25	.75	.75	-.51	-.55	-.26	-.30	-.25	-.36	.73	.77	.85

performance variables correlated with life change as expected. That is, there was an inverse relationship between high life change and the school performance variables. That is, the students who have higher life change have poorer school performance. Also, the life change correlated higher for the year 2 variable than the year 1 variable except for the reading variables.

The correlations between the first and the second year grade point average variables and life change were negative and were -.30 and -.35 respectively. The correlation between citizenship grade average and life change for the first year was .35 and .40 the second year. In regard to absences, life change correlated .25 the first year and .27 the second year. For demerit points of infraction, the first year correlated with life change .22 while in the second year the correlation was .31. The Stanford Achievement Test Reading Battery had a correlation coefficient of -.25 for the first year and -.18 for the second year. On the other hand the Mathematics Battery for the Stanford Achievement Test correlated -.22 the first year and -.25 the second year.

Comparing the school performance variables' correlations with each other, there was high correlation with the first and second year grade point average of .84. The correlation coefficient between citizenship grade average the second year and grade point average the second year was -.77. This means that students who had high grades meaning a high numerical value (i.e., 4.00 = A) had lower citizenship grades meaning lower numerical values (i.e., 1 = excellent behavior).

It may be of interest to note that absences correlated negatively with grades and positively with citizenship. Similarly, the number of demerit points a student received for infractions concerning the Conduct Code correlated negatively with grades and positively with citizenship. Also, the correlation coefficient between mathematics 2 and reading 2 was .77.

SEPARATE CORRELATIONS FOR THE FIRST AND THE SECOND YEAR VARIABLES FOR THE EIGHTH GRADE SUBSAMPLE

While this section does not refer to any of the hypotheses, it shows separate correlations between life change and the first and the second year school performance variables respectively and the correlation between the first and the second year school performance variables themselves for the eighth grade subgroup. The correlation coefficients for this section are presented in Table 4.10. The correlation coefficients were not tested for significance.

The correlations for the eighth grade subgroup between life change and the first and the second year performance variables for each of the separate years show that there was an inverse relationship. That is, as life change increased performance decreased. The correlations between life change and grade point average were -.32 and -.48 respectively for the first and second year. With the citizenship variable life change correlated .34 and .44 for the first and second year. Absences were related to high life change for the first year variable with a correlation of .17 and .29 the second year. For the eighth grade subgroup demerit points of

Table 4.10

Simple Correlations Between Life Change and the First and Second Year School Performance Variables for the Eighth Grade Subsample

	Life Change	Grade Point Average 1	Grade Point Average 2	Citizen-ship 1	Citizen-ship 2	Absence 1	Absence 2	Points 1	Points 2	Reading 1	Reading 2	Math 1
Grade Point 1	-.32											
Grade Point 2	-.48	.86										
Citizen-ship 1	.34	-.71	-.63									
Citizen-ship 2	.44	-.72	-.79	.80								
Absence 1	.17	-.45	-.48	.20	.32							
Absence 2	.29	-.44	-.58	.28	.47	.77						
Points 1	.24	-.39	-.40	.55	.46	.20	.31					
Points 2	.42	-.40	-.52	.50	.65	.15	.33	.67				
Reading 1	-.40	.73	.70	-.42	-.51	-.24	-.29	-.30	-.25			
Reading 2	-.34	.74	.74	-.45	-.52	-.26	-.30	-.29	-.28	.89		
Math 1	-.41	.74	.71	-.51	-.57	-.20	-.27	-.32	-.34	.75	.72	
Math 2	-.39	.78	.82	-.53	-.62	-.30	-.36	-.28	-.36	.79	.80	.85

infraction concerning the Conduct Code correlated .24 the first year and .42 the second year with life change. The reading variable had a higher correlation the first year with life change (-.40) than the second year (-.34). Also the mathematics variable had a higher correlation the first year with the coefficient of -.41 the first year and -.39 the second year.

In regard to the performance variables correlating with each other, grade point average for the first year correlated with the second year .86. The correlation coefficient between citizenship grade average for the first year and citizenship grade average the second year was .80. The demerit points of infraction correlated .67 between the first and second year. It may be of interest to note that the reading variable for the second year correlated .80 with the mathematics variable for the second year.

SEPARATE CORRELATIONS FOR THE FIRST AND SECOND YEAR VARIABLES FOR THE NINTH GRADE SUBSAMPLE

This section, also, does not pertain to any of the hypotheses but it presents the correlations for the ninth grade subsample between life change and the school performance variable for each separate year and between the school performance variables themselves. The correlation coefficients for this section are in Table 4.11. The correlation coefficients were not tested for significance.

Life change for the ninth grade subgroup was inversely related to the first and second year performance variables. However, life change correlated higher with the first year variables than the

Table 4.11

Simple Correlations Between Life Change and the First and Second Year School Performance Variables for the Ninth Grade Subsample

	Life Change	Grade Point Average 1	Grade Point Average 2	Citizen-ship 1	Citizen-ship 2	Absence 1	Absence 2	Points 1	Points 2	Reading 1	Reading 2	Math 1
Grade Point 1	-.34											
Grade Point 2	-.23	.81										
Citizen-ship 1	.39	-.78	-.67									
Citizen-ship 2	.37	-.68	-.75	.78								
Absence 1	.37	-.47	-.43	.41	.42							
Absence 2	.27	-.43	-.53	.40	.46	.64						
Points 1	.20	-.49	-.53	.58	.63	.51	.33					
Points 2	.20	-.53	-.66	.57	.68	.42	.43	.73				
Reading 1	-.11	.62	.55	-.44	-.47	-.12	-.17	-.24	-.34			
Reading 2	-.04	.61	.59	-.43	-.43	-.14	-.26	-.17	-.39	.86		
Math 1	-.07	.72	.61	-.50	-.47	-.21	-.32	-.24	-.31	.76	.74	
Math 2	-.13	.70	.64	-.48	-.48	-.19	-.23	-.25	-.37	.69	.74	.84

second year variables for grade point averages, citizenship grade averages, demerit points of infraction and the reading variables. The correlation coefficient between life change and grade point average for the first year was -.34, and for the second year the correlation was -.23. The citizenship variable correlated .39 with life change the first year and .37 the second year. There was also a relationship between absences and life change but the correlation the first year was .37 and .27 the second year. The correlation coefficient between life change and demerit points of infraction was .20 for both the first and second years. The reading variable the first year correlated -.11 with life change and -.04 the second year. For the mathematics variable the correlation the first year was -.07 and -.13 the second year.

In regard to the performance variables correlating with each other, grade point average for the first year correlated with the second year .81. The correlation between the first and the second year citizenship variable was .78. The correlation between the first and second year absence variable was .64. The demerit points of infraction correlation coefficient was .73 between the first and the second year. The reading variable for the first year correlated .74 with the mathematics variable for the second year.

As presented in the previous section, the eighth grade subsample's life change correlated higher with the second year performance variables; conversely, the ninth grade subsample's life change correlated higher with the first year's performance variables. However, an inverse relationship was found between life change and

the first and the second year school performance variables for both the eighth and the ninth grade subsample.

CORRELATIONS USING THE RAW SCORE AND ADOLESCENT WEIGHTS

An additional analysis was completed in order to study the relationship between the raw score and the Life Change Units. Also, the value of the adolescent weights as compared with the professional weights for each of the Life Event items was examined.

A correlation coefficient was also computed between the Life Change Units and the number of changes or the raw score. The correlation between Life Change Units and the total number of life changes was .984. Thus, the correlation between the school performance variables and the number of changes would be similar to the correlations with Life Change Units.

Correlations were also computed with adolescent weights determined in a later study by Coddington.[4] The adolescent weights were obtained from the Adolescent Life Event Rating Technique (ALERT). The new adolescent questionnaire was developed using Life Change Units that were based on the weights the adolescents gave themselves. While there are fifty questions on the Adolescent Life Event Rating Technique (ALERT), the Life Event Record as modified for this study had thirty-four questions. Furthermore in computing

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[4]R. Dean Coddington, "Adolescents Identify Stressful Life Events" (paper presented at the symposium: Children and Parents Under Stress, sponsored by the Langley Porter Neuropsychiatric Institute, San Francisco, May, 1975).

the adolescent weighted score for this study, five questions were not changed according to the adolescent values (weights). The reason for this was that the intent of two questions was not the same for both questionnaires, two questions were not used in the ALERT questionnaire, and one question had no difference in values. For instance, in the Life Event Record, two questions dealt with hospitalization of the child and siblings while on the adolescent weighted questionnaire the questions were concerned with serious illness requiring hospitalization. Hence, for these two questions it was determined that the scores could not be interchanged. One of the questions had no disparity in Life Change Units. Two questions, birth of brother or sister and brother or sister leaving home were not on the ALERT questionnaire but were included in the adolescent weights for this study.

Hence, it must be noted that the adolescent weights for this study are not the same as the Adolescent Life Event Rating Technique (ALERT) questionnaire. Also, the number of times the event happened to an individual was not included in this study like it is on the ALERT questionnaire since the data were not available.

The Life Event Record correlated with the adolescent weights for this study .969. Thus the relationship of the school performance variables with the adolescent values for this study would be similar to those relationships with the Life Event Record. However, it must be noted that the difference between the means for the Life Event Record and adolescent means for the analysis of variance for the two questions--separation and divorce--had higher means with the

adolescent weights than the Life Event Record weights. The adolescent weights for the two questions were higher.

It seems for this study the weights the professionals gave have some validity with the weights that the adolescents gave since the two weights--the Life Change Units from the Life Event Record and the adolescent weights--were highly correlated.

SUMMARY

Difference (gain) scores of the school performance variables were used to correlate with Life Change Units, using the Pearson Product Moment Correlation. To obtain the relationship of the life events for all of the performance variables together, a multiple correlation was used. In order to determine differences of the life events by grade and sex, the analysis of variance was used. Partial correlations were used in order to take into consideration the reliability of gain scores.

The null hypotheses were presented for the total sample and were accepted or rejected based on the data and the .05 level of significance. As a result of the analysis, a restatement of the hypotheses is made followed by a statement of support or non-support.

Hypothesis 1: There will be a significant negative correlation between Life Change Unit scores and change in achievement levels as measured by the students' grade point averages.

The hypothesis was supported.

Hypothesis 2: There will be a significant negative correlation between Life Change Unit scores and change in citizenship behavior as measured by the students' citizenship grade averages.

The hypothesis was supported.

Hypothesis 3: There will be a significant positive correlation between Life Change Unit scores and change in the number of absences as measured by the students' attendance records.

This hypothesis was not supported.

Hypothesis 4: There will be a significant positive correlation between Life Change Unit scores and change in the number of demerit points on the Point System as measured by the Conduct Code.

The hypothesis was supported.

Hypothesis 5: There will be a significant negative correlation between Life Change Unit scores and change in Total Reading scores as measured by the Stanford Achievement Test (SAT).

This hypothesis was not supported.

Hypothesis 6: There will be a significant negative correlation between Life Change Unit scores and change in Total Mathematics scores as measured by the Stanford Achievement Test (SAT).

The hypothesis was supported.

Hypothesis 7: There will be a significant multiple correlation between Life Change Unit scores and the year two variables controlling for the year one variables.

The hypothesis was supported.

Hypothesis 8: There will be no significant difference in Life Change Unit scores between eighth and ninth grade students.

The hypothesis was supported.

Hypothesis 9: There will be no significant difference in Life Change Unit scores between male and female students.

The hypothesis was supported.

The hypotheses for the total sample support the thesis that there is a relationship between life changes and school performance. A significant inverse relationship was found for the total sample

between life changes and a change in grade point average, citizenship grade average, demerit points of infraction and the total Mathematics test scores. That is for the total sample, students with higher Life Change Units tended to perform lower on the four performance variables. When the total sample was subdivided by grade, the ninth grade students had no significant correlations whereas the eighth grade students had significant correlations. The significant correlations for the total sample can probably be attributed to the stronger correlations between the variables in the eighth grade. The thesis that there is a relationship between life changes and school performance was supported for the total sample but the degree of relationship is more evident for the eighth grade subgroup, and for the ninth grade subgroup the possibility of a relationship is questionable.

Chapter 5 will contain a summary, conclusions, and recommendations for further study.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter is a summary of this study based on the purpose, methodology and the study's findings. It presents the conclusions, a discussion of the results and their implications along with recommendations for future research.

PURPOSE

The purpose of this study was to investigate the possible relationships between life events and school performance of eighth and ninth grade students. The study was designed to investigate two questions: (1) Are there any relationships between recent life changes of students and their performance in school? and (2) If there are relationships, what are the specific factors which are involved?

In reference to the purpose and questions, the hypotheses for this study were:

Hypothesis 1: There will be a significant negative correlation between Life Change Unit scores and change in achievement levels as measured by the students' grade point averages.

Hypothesis 2: There will be a significant negative correlation between Life Change Unit scores and change in citizenship behavior as measured by the students' citizenship grade averages.

Hypothesis 3: There will be a significant positive correlation between Life Change Unit scores and the change in the number of absences as measured by the students' attendance records.

Hypothesis 4: There will be a significant positive correlation between Life Change Unit scores and change in the number of demerit points on the Point System as measured by the Conduct Code.

Hypothesis 5: There will be a significant negative correlation between Life Change Unit scores and change in Total Reading scores as measured by the Stanford Achievement Test (SAT).

Hypothesis 6: There will be a significant negative correlation between Life Change Unit scores and change in Total Mathematics scores as measured by the Stanford Achievement Test (SAT).

Hypothesis 7: There will be a significant multiple correlation between Life Change Unit scores and the year two variables controlling for the year one variables.

Hypothesis 8: There will be no significant difference in Life Change Unit scores between eighth and ninth grade students.

Hypothesis 9: There will be no significant difference in Life Change Unit scores between male and female students.

A review of the literature indicates a relationship between life changes and illness for both adults and children. Studies also show there is an inverse relationship between life changes and performance for adults and college students. While there are studies with children dealing with personality variables and behavior including absences there are no studies dealing with school performance such as achievement and school behavior as measured according to this study. Hence, it was assumed that the adjustment to life changes would have a relationship with the school performance of eighth and ninth grade students.

METHODOLOGY

The sample (n = 271) for this study consisted of C. W. Otto Junior High students randomly selected according to grade (eighth and ninth), sex and students who had parental approval. The life changes of the students were measured by a modified form of Coddington's Life Event Record for Junior High School. The life changes in the form of Life Change Unit scores were correlated with six performance variables: grade point average, citizenship grade average, number of absences, demerit points on the Conduct Code, Total Reading scores and Total Mathematics scores on the Stanford Achievement Test. The performance variables were calculated according to change (gain) scores between the last school year's performance (1975) and the previous school year's performance (1974).

The statistical analyses to test the hypotheses were simple correlations, multiple correlations, and the analysis of variance. The hypotheses were tested for the total sample but correlations by grade and partial correlations were included to further explore the relationships.

FINDINGS

The findings of this study are based upon the hypotheses of this study. The hypotheses which are based upon the total sample are presented and followed by a statement of support or non-support.

Hypothesis 1: There will be a significant negative correlation between Life Change Unit scores and change in achievement levels as measured by the students' grade point averages.

The hypothesis was supported.

Hypothesis 2: There will be a significant negative correlation between Life Change Unit scores and change in citizenship behavior as measured by the students' citizenship grade averages.

The hypothesis was supported.

Hypothesis 3: There will be a significant positive correlation between Life Change Unit scores and change in the number of absences as measured by the students' attendance records.

This hypothesis was not supported.

Hypothesis 4: There will be a significant positive correlation between Life Change Unit scores and change in the number of demerit points on the Point System as measured by the Conduct Code.

The hypothesis was supported.

Hypothesis 5: There will be a significant negative correlation between Life Change Unit scores and change in Total Reading scores as measured by the Stanford Achievement Test (SAT).

This hypothesis was not supported.

Hypothesis 6: There will be a significant negative correlation between Life Change Unit scores and change in Total Mathematics scores as measured by the Stanford Achievement Test (SAT).

The hypothesis was supported.

Hypothesis 7: There will be a significant multiple correlation between Life Change Unit scores and the year two variables controlling for the year one variables.

The hypothesis was supported.

Hypothesis 8: There will be no significant difference in Life Change Unit scores between eighth and ninth grade students.

The hypothesis was supported.

Hypothesis 9: There will be no significant difference in Life Change Unit scores between male and female students.

The hypothesis was supported.

CONCLUSIONS

Tests of significance revealed the following results and conclusions:

1. A significant negative correlation between Life Change Unit scores and change in grade point average for the total sample was found. Students who had higher life changes tended to have lower grade point averages in comparison to the previous year's grade point averages.

2. A significant negative correlation between Life Change Unit scores and change in citizenship grade averages for the total sample was found. Students who had higher life changes tended to have lower citizenship grades in comparison to the previous year's citizenship grades.

3. A significant positive correlation between Life Change Unit scores and change in the number of demerit points on the Point System for the total sample was found. Students who had higher life changes tended to receive more demerit points on the Conduct Code in comparison to the previous year's points.

4. A significant negative correlation between Life Change Unit scores and change in Total Mathematics scores on the Stanford Achievement Test for the total sample was found. Students who had higher life changes tended to have lower scores on the Total Mathematics Test of the Stanford Achievement Test when compared to the previous year's Total Mathematics Test scores.

5. A significant negative correlation between Life Change Unit scores and change in grade point averages for the eighth grade

subgroup was found. Eighth grade students who had higher life changes tended to have lower grade point averages in comparison to the previous year's grade point averages.

6. A significant negative correlation between Life Change Unit scores and change in citizenship grade averages for the eighth grade subgroup was found. Eighth grade students who had higher life changes tended to receive lower citizenship grades in comparison to the previous year's citizenship grade point averages.

7. A significant positive correlation between Life Change Unit scores and change in number of absences for the eighth grade subgroup was found. Eighth grade students who had high life changes tended to have more days absent in comparison to the previous year's absences.

8. A significant positive correlation between Life Change Unit scores and demerit points on the Conduct Code for the eighth grade subgroup was found. Eighth grade students who had higher life changes tended to receive more demerit points on the Conduct Code in comparison to the previous year's demerit points on the Conduct Code.

9. A significant negative correlation between Life Change Unit scores and change in Total Mathematics Test scores on the Stanford Achievement Test for the eighth grade subgroup was found. Eighth grade students who had higher life changes tended to have lower Total Mathematics Test scores on the Stanford Achievement Test in comparison to the previous year's Total Mathematics Test scores on the Stanford Achievement Test.

10. A significant negative partial correlation was found for the total sample between Life Change Unit scores and the second year grade point average variable with the first year grade point average variable held constant. Controlling for the first year grade point average, students who had higher life changes tended to have lower grade point averages.

11. A significant positive partial correlation was found for the total sample between Life Change Unit scores and the second year citizenship grade average variable with the first year citizenship grade average variable held constant. Controlling for the first year citizenship grade average, students who had higher life changes tended to have lower citizenship grade averages.

12. A significant positive partial correlation was found for the total sample between Life Change Unit scores and the second year demerit points on the Conduct Code variable with the first year demerit points on the Conduct Code variable held constant. Controlling for the first year demerit points on the Conduct Code, students who had higher life changes tended to have more demerit points on the Conduct Code the second year.

13. A significant negative partial correlation was found for the eighth grade subgroup between Life Change Unit scores and the second year grade point average variable with the first year grade point average variable held constant. Controlling for the first year grade point average variable, eighth grade students who had higher life changes had lower grade point averages the second year.

14. A significant positive partial correlation was found for the eighth grade subgroup between Life Change Unit scores and the second year citizenship grade average variable with the first year citizenship grade average variable held constant. Controlling for the first year citizenship grade average variable, eighth grade students who had higher life changes had lower citizenship grade averages in the second year.

15. A significant positive partial correlation was found for the eighth grade subgroup between Life Change Unit scores and the second year demerit points on the Conduct Code variable with the first year demerit points on the Conduct Code held constant. Controlling for the first year points on the Conduct Code variable, eighth grade students who had higher life changes had more demerit points on the Conduct Code the second year.

16. A significant multiple correlation was found for the total sample between Life Change Unit scores and the year two variables--grade point average, citizenship grade average, absences, demerit points on the Conduct Code, Total Reading scores and Total Mathematics scores on the Stanford Achievement Test--controlling for the first year variables.

17. A significant multiple correlation was found for the eighth grade subgroup between Life Change Unit scores and the year two variables--grade point average, citizenship grade average, absences, demerit points on the Conduct Code, Total Reading scores and Total Mathematics scores on the Stanford Achievement Test--controlling for the first year variables.

18. No significant differences were found between the life changes of the eighth and ninth grade students of this sample.

19. No significant differences were found between the life changes of the males and females of this sample.

20. Significant differences were found in the life changes of students whose parents had separated or divorced and those students whose parents had not separated or divorced.

DISCUSSION AND IMPLICATIONS

The purpose of this study was to investigate the possible relationships between life events and school performance of eighth and ninth grade students. The results of the study support the thesis that there is a relationship between life changes of eighth and ninth grade students and school performance. A significant inverse relationship was found for the total sample between life changes and a change in grade point average, citizenship grade average, demerit points on the Point System and Total Mathematics Test scores on the Stanford Achievement Test. That is, for the total sample, students with higher life changes tend to perform lower on the four performance variables. When the total sample was subdivided by grade, the ninth grade students had no significant correlations whereas the eighth grade students had significant correlations. The significant correlations for the total sample can probably be attributed to the stronger correlations between the variables in the eighth grade subgroup. The thesis that there is a relationship between life changes and school performance was

supported for the total sample but the degree of relationship was more evident for the eighth grade subgroup, and for the ninth grade subgroup the possibility of a relationship is questionable.

The answer to the first research question, "Are there relationships between recent life changes of students and their performance in school?" is affirmative. The answer to the second research question, "If there are relationships, what are the specific factors which are involved?" is more complex. From the results of the study, the variables--grade point average change, citizenship change, demerit points on the Point System change and Total Mathematics change--for the total group show significant relationships with life changes. The eighth grade correlations with these four performance variables show significant yet higher correlations. In addition, absence change correlated with life changes.

The reason that the ninth grade subgroup did not exhibit significant relationships is speculative. A possible explanation may be that ninth grade students are becoming more mature. Elkind and Kagan consider that early adolescence is a time when the adolescent is developing intellectually and emotionally. In other words, ninth grade students are becoming more cognitively oriented and more egocentric. Ninth grade students may be more sophisticated than the eighth grade students and may be less open to giving information about themselves. From the author's observations in administering the test, some ninth grade students seemed to be less

serious than eighth grade students in answering the questionnaire. On the other hand, the sample was small and from a limited population.

While the study assumed that life changes did occur in the past year only, a change in performance as measured in change (gain) scores was attributed to life changes. Both change scores and partial correlations seemed to be a good way to determine the impact of life changes.

Another factor which seemed to play an important role in the students' lives was the students whose parents were separated or divorced. This seems to be a significant factor as far as predicting which students would have more life changes.

On the other hand, while ninth grade students may be changing, are significant correlations between life changes and school performance of the eighth grade subgroup attributed to life change or the adolescent turmoil of the eighth grade period? In other words, are the eighth grade and ninth grade students different enough to warrant a conclusion about the impact of life change? Do the factors of physical, mental, and psychological maturing have an influence? In other words, adolescent growth is confounded with other life changes addressed in this study.

With change an important phenomenon of our society, the effect of change, according to Toffler and others, has an impact on the individual. The effect of change added to the changes in the adolescent both internal and external places added stress upon the youth of today. The adolescent is changing physically, emotionally,

psychologically, socially and mentally. Adolescence is known as a time of transition; and for the junior high school student, it is a critical period. For this period helps determine his development in late adolescence as well as adulthood (maturity, self actualization or the adequate person). Life change as measured by the Life Event Record helps determine the social-psychological readjustment to stressful life events, and this study establishes a relationship between life events and school performance for eighth and ninth grade students. Thus, if life events are related to school performance, educators must help students adjust. Teachers must help students meet change and be open to it. Educators must help students adapt to stress and modern living, allow students to become what they potentially are and help them to constructively cope with the changes in their lives.

RECOMMENDATIONS

Recommendations for future studies using the variable of life events are presented. These ideas have been developed from this study and from the literature of the life change field, of adolescence, and of education. The recommended studies are the following:

1. A replication of this study using a different sample of eighth and ninth grade students to determine if a relationship between life changes and school performance does exist for that sample and to discover possible differences between the two grade levels.

2. A replication of this study to determine relationships between life changes and school performance using a different population such as preschool, elementary, or high school students in rural, urban, and suburban areas.

3. A study to investigate the relationship between life changes and attitudes toward school.

4. A study of the relationship between life changes in children and life changes in their parents and how these changes relate to school performance or other personal variables.

5. A study of the relationships between life changes in children and variables such as truancy or dropping out of school.

6. A study of students with high and low life changes to determine the effect of educational programs specifically designed to help students under stress.

7. A study of the effect of life changes using the Adolescent Life Event Rating Technique (including desirable, undesirable, personal and family life events) on performance or personality variables.

8. A study of the effect of teachers' behavior on students with high and low life changes.

9. A study of life changes as they affect adolescent development in such areas as early and late maturing youngsters, popularity or goals in life.

10. A study of the relationship between life changes and student teachers' performance.

11. A study of the cause-effect relationship of life changes to performance at all levels of education, including students, teachers, and administrators.

12. A study of the effect of life changes on learning disabilities, reading problems or behavioral problems in the school setting.

13. A study of the effect of inservice education on teachers with high and low life changes.

14. A study to determine the personality characteristics children have for coping successfully with life changes.

15. A study of the effect of various life events such as divorce and separation on school performance or personality variables.

16. A study of the effect of life changes on students' values and/or belief system.

The adolescent is going through a crucial period in his life, for what a young person will become in the future depends in a large part on his development at this time. The adolescent's growth involves many physiological, psychological and social changes. In addition, the adolescent is affected by many changes resulting from the stress of modern living. Children are not only faced with internal problems of adaptation but external demands that adults were never faced with when they were young.

With accumulating evidence that life changes are related in a positive or negative fashion to a child's well-being and his school performance, the life change field would be a fertile area for continued study and more research is needed.

APPENDICES

APPENDIX A

LETTERS OF PERMISSION

LANSING SCHOOL DISTRICT
LANSING, MICHIGAN

C. W. OTTO
JUNIOR HIGH SCHOOL
500 E. THOMAS STREET

VERN O. CHAPMAN
PRINCIPAL

February 6, 1975

TO WHOM IT MAY CONCERN:

This letter will serve as authorization for John Patrick O'Meara to proceed with his dissertation for Michigan State University.

This will involve a questionnaire situation with students and also will include parent acceptance.

Sincerely,

Vern O. Chapman

VERN O. CHAPMAN
Principal
jlw

LANSING SCHOOL DISTRICT
LANSING, MICHIGAN

C. W. OTTO
JUNIOR HIGH SCHOOL
500 E. THOMAS STREET

VERN O. CHAPMAN
PRINCIPAL

April 19, 1975

Dear Parent:

An educational study of randomly selected eighth and ninth graders at C. W. Otto Junior High School is to be conducted with Mr. Chapman, the principal's, permission. Your child has been selected as part of this research study. A questionnaire will be given to your child but no names will be required. The questionnaire is designed to show events that have happened to the child in the past year.

Special care will be taken to have the students remain anonymous. Randomly selected numbers on the questionnaire in place of names will be used for research purposes.

This study will be carried on in conjunction with Michigan State University educational research and as part of my educational studies.

The general benefit and purpose of the study will be to better help all teachers and school personnel to aid all students at junior high level in the educational process.

The questionnaire will be given May 20th and 21st. If I do not receive a reply to this letter, I will assume you approve this project and your child will be allowed to take part in it. Thank you for your consideration.

Sincerely yours,

John P. O'Meara

John P. O'Meara
Social Studies Teacher
C. W. Otto Junior High School

LANSING SCHOOL DISTRICT
LANSING, MICHIGAN

C. W. OTTO
JUNIOR HIGH SCHOOL
500 E. THOMAS STREET

VERN O. CHAPMAN
PRINCIPAL

Abril 17, 1975

Queridos Padres:

Un estudio educacional para estudiantes de octavo y noveno grados de C. W. Otto Junior High, escogidos al azar se llevará a cabo con la autorización de Mr. Chapman, el Principal. Su hijo ha sido seleccionado para tomar parte en este estudio de investigación. Un cuestionario le será entregado a su hijo, pero no se necesita que él se identifique. El cuestionario tratará de sucesos y eventos donde su hijo actuó el año pasado.

Se tomarán todas las precauciones necesarias para que el estudiante permanezca anónimo. Número tomados al azar se usarán en el cuestionario en lugar de los nombres.

Este estudio se llevará a cabo en cooperación con el centro educacional de Michigan State University y como parte de mis estudios educacionales.

El beneficio general y el propósito del estudio servirá para que tanto los maestros como el personal de la escuela ayuden a todos los estudiantes de Junior High School en el proceso educacional.

El cuestionario se entregará los días 20 y 21 de Mayo próximo. Si yo no recibo contestación de esta carta supondré que Ud. aprueba este proyecto y autoriza a su muchacho a tomar parte en este programa.

Gracias anticipadas por su consideración a este asunto y quedo de Ud. muy atentamente.

John P. O'Meara
Social Studies Teacher
C.W. Otto, Jr. High School.

John P. O'Meara

PS.
Muchas gracias por su colaboración.

Nino Rodriguez

Nino G. Rodriguez
Consejero

APPENDIX B

QUESTIONNAIRE PERMISSION LETTERS

282 Gunson Street
East Lansing, Michigan 48823
July 26, 1974

Dr. R. Dean Coddington
Professor of Psychiatry and Pediatrics
Ohio State University
College of Medicine
Director of the Division of Child
Psychiatry
410 West 10th Avenue
Columbus, Ohio 43210

Dear Dr. Coddington:

After reading your articles in the Journal of Psychosomatic Research (February and June, 1972), I was very much impressed and excited about your research of recent life changes on children. Since I am a graduate student in the College of Education at Michigan State University, I am concerned with the growth and development of children and the influence of change upon students.

I am interested in doing an investigative study of the possible relationships between recent life changes and performance of junior high school students in school. I would like to request permission to use your questionnaire of recent life experiences. If I may use it, what is the procedure for obtaining it?

Since it is my intent to develop a dissertation in this area, do you know of any studies using your questionnaire in relation to school performance or education?

Are there any conditions for the use of your questionnaire? Also, would it be acceptable to delete some questions from your questionnaire if a school system deemed it necessary in using it with their students?

Thank you and any consideration possible will be appreciated.

Sincerely yours,

John P. O'Meara

LOUISIANA STATE UNIVERSITY MEDICAL CENTER
1542 TULANE AVENUE · NEW ORLEANS · LOUISIANA · 70112
School of Medicine in New Orleans

DEPARTMENT OF PSYCHIATRY
AND
BEHAVIORAL SCIENCES

August 27, 1974

Mr. John P. O'Meara
282 Gunson Street
East Lansing, Michigan 48823

Dear Mr. O'Meara:

Thank you for your letter of July 26 and for your interest in my research efforts. I am enclosing a copy of the latest edition of the Life Event Record which, as you see, is copyrighted. If your dissertation relates to one hundred or two hundred children, you have my permission to duplicate the form and use it, but if you intend to use it in a very large number of children, I wish you would contact me further with a specific order so that I may notify the printer and have them sent to you. The charges would, of course, depend on the number that you purchase.

I am also enclosing a memorandum which lists some of the people who have shown a particular interest in this line of research, and the second page includes three educators who apparently have interests similar to yours. Whether or not they are concerned with learning or health, I am not sure. However, the two things undoubtedly go hand in hand, and I suggest you contact them directly. They may actually have completed their work since it was begun about a year ago.

Of course you may delete questions from the questionnaire if the school board insists. It will not change the scoring system at all, but since most of these things are important to children, particularly the ones that are rather personal in nature, I would then encourage you to do your very best to gain approval to use the full list.

Please keep me informed as to your progress.

Yours very truly,

R. Dean Coddington, M.D.
Professor

RDC:ic

enc

APPENDIX C

LIFE EVENT RECORD AND ITS MODIFICATION

USE STAMP

NAME

PARENTS

ADDRESS

LIFE EVENT RECORD

Please check which of the following events happened to your child in the past year,

FOR OFFICE USE ONLY				
Preschool	Elementary	Junior High	Senior High	
42	46	45	42	( )Beginning nursery school, 1st grade, 7th grade, or high school
-	46	52	56	( )Change to a different school
50	50	50	50	( )Birth or adoption of a brother or sister
39	36	33	37	( )Brother or sister leaving home
37	41	44	41	( )Hospitalization of brother or sister
59	68	71	68	( )Death of brother or sister
36	45	42	38	( )Change of father's occupation requiring increased absence from home
23	38	48	46	( )Loss of job by a parent
74	78	77	69	( )Marital separation of parents
78	84	84	77	( )Divorce of parents
51	55	54	55	( )Hospitalization of parent (serious illness)
89	91	94	87	( )Death of a parent
30	38	35	36	( )Death of a grandparent
62	65	63	63	( )Marriage of parent to stepparent
34	44	50	53	( )Jail sentence of parent for 30 days or less
67	67	76	75	( )Jail sentence of parent for 1 year or more
39	41	34	34	( )Addition of third adult to family (e.g. grandparent, etc.)
21	29	40	45	( )Change in parents' financial status
47	44	36	26	( )Mother beginning to work
21	25	29	27	( )Decrease in number of arguments between parents
44	51	48	46	( )Increase in number of arguments between parents
22	27	29	26	( )Decrease in number of arguments with parents
39	47	46	47	( )Increase in number of arguments with parents
33	52	70	64	( )Discovery of being an adopted child
52	69	83	81	( )Acquiring a visible deformity
39	60	70	62	( )Having a visible congenital deformity
59	62	59	58	( )Hospitalization of yourself (child)
38	51	68	67	( )Change in acceptance by peers
23	39	45	46	( )Outstanding personal achievement
38	53	65	63	( )Death of a close friend (child's friend)
	57	62	56	( )Failure of a year in school
	46	54	50	( )Suspension from school
	36	60	64	( )Pregnancy in unwed teenage sister
	61	70	76	( )Becoming involved with drugs or alcohol
	25	28	31	( )Becoming a full fledged member of a church/synagogue
		49	55	( )Not making an extracurricular activity you wanted to be involved in (i.e. athletic team, band, etc.)
		47	53	( )Breaking up with a boyfriend or girlfriend
		55	51	( )Beginning to date
		76	77	( )Fathering an unwed pregnancy
		95	92	( )Unwed pregnancy
			43	( )Being accepted at a college of your choice
			101	( )Getting married
TOTAL				

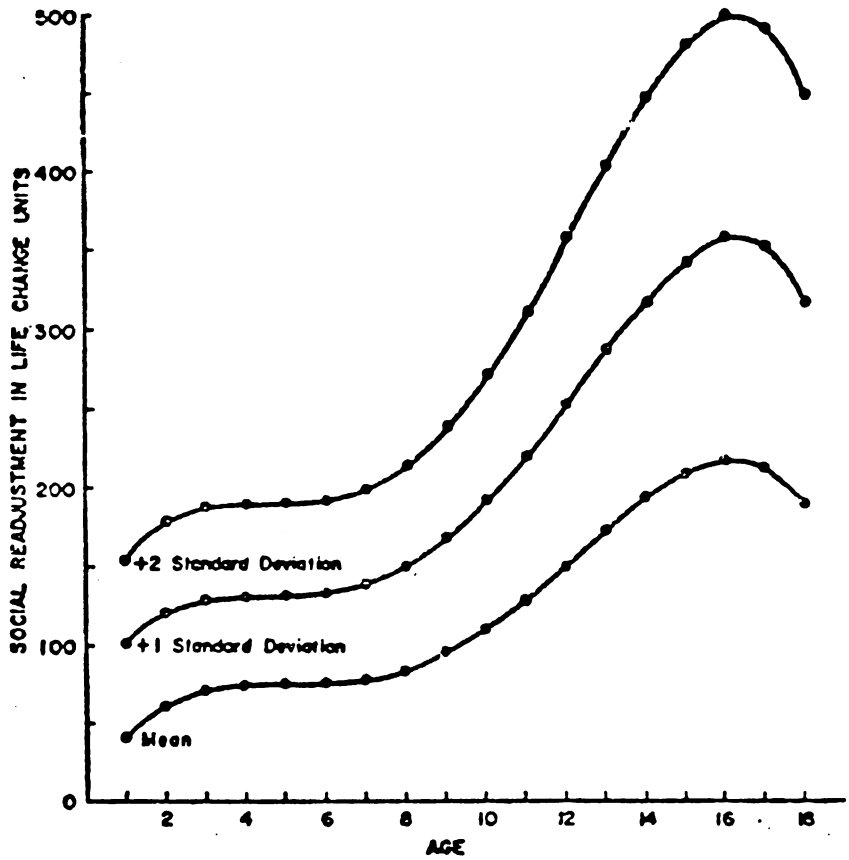
SCORING PROCEDURE

1. Four columns of figures precede the list of events on the other side. Select the proper column for this child and circle the values for the items that have been checked.

2. Add the encircled items.

3. Plot the total on the curve of a normal population.

CURVE OF A NORMAL POPULATION



INTERPRETATION

By definition, 15.7% of the children in a normal population will have life event scores that fall above the mean plus one standard deviation. A score above this level indicates that an unusual amount of readjustment has been required of this child during the past year. Such scores can be viewed as potential pathogens which may or may not result in physical or mental disequilibrium with the environment.

High scores should serve only as a danger signal - a red flag - alerting the physician to the situation. Knowledge of the specific events can be used if appropriate.

LIFE EVENT RECORD

Please check those events which happened to you in the past year.

1. ( )Beginning nursery school, 1st grade, 7th grade or high school.
2. ( )Change to a different school
3. ( )Birth or adoption of a brother or sister
4. ( )Brother or sister leaving home
5. ( )Hospitalization of brother or sister
6. ( )Death of brother or sister
7. ( )Change of father's occupation requiring increased absence from home
8. ( )Loss of job by parent
9. ( )Marital separation of parents
10. ( )Divorce of parents
11. ( )Hospitalization of parents (serious illness)
12. ( )Death of a parent
13. ( )Death of a grandparent
14. ( )Marriage of parent to stepparent
15. ( )Addition of third adult to family (e.g., grandparent, etc.)
16. ( )Change in parents' financial status
17. ( )Mother beginning to work
18. ( )Decrease in number of arguments between parents
19. ( )Increase in number of arguments between parents
20. ( )Decrease in number of arguments with parents
21. ( )Increase in number of arguments with parents
22. ( )Discovery of being an adopted child
23. ( )Acquiring a visible deformity

24. ( )Having a visible congenital deformity

25. ( )Hospitalization of yourself (child)

26. ( )Change in acceptance by peers

27. ( )Outstanding personal achievement

28. ( )Death of a close friend (child's friend)

29. ( )Failure of a year in school

30. ( )Suspension from school

31. ( )Becoming involved with drugs or alcohol

32. ( )Becoming a full fledged member of a church/synagogue

33. ( )Not making an extracurricular activity you wanted to be involved in (i.e., athletic team, band, etc.)

34. ( )Breaking up with a boyfriend or girlfriend

35. ( )Beginning to date

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