Academic stress among school age children and early adolescents in the United States and Indonesia

by

Edith Monica Gozali

A Thesis Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE

Major: Child Development

Iowa State University
Ames, Iowa

1990

TABLE OF CONTENTS

INTRODUCTION

Since the 1950s, parenting and childhood in America have changed dramatically. Childhood as a period in which to grow at one's own pace in a protected environment largely removed from adult supervision has given way to a new era in which the parents and teachers act as supervisors and directors of the child's development. Sometimes such involvement, especially by middle class parents and parents with high education, places unnecessary strain on children to compete and achieve and often places unrealistic expectations on them. Ironically, whereas more is now known about individual differences in child development, the knowledge is poorly used. In reality, children's behaviors and abilities are compared with school standards or norms. Whether in school or on the playing field, the child is persistently pressured to perform competitively, and his or her performance is constantly measured or recorded; childhood more and more resembles the purposeful, success-centered, competitive world of adults. Although educators have been concerned with the extent of stress in school, little has been done to define and assess this very specific area of stress, academic stress (Schultz & Heuchert, 1983). Therefore, the primary purpose of this project is to investigate academic stress among school age children and early adolescents in the United States and Indonesia, and to examine the factors or sources that are mediating the academic stress, especially children's locus of control, children's self-concept, and parental education and occupation.

Theoretical Framework

In recent decades, educators in the United States have been concerned with the extent of stress related to formal schooling. Patterson (1973) characterizes U.S. students as having behaviors "which

result from threat and stress" (p. 142). Elkind (1981), author of The Hurried Child, said we push our children to grow up too fast and too soon. These children are pushed in their early years toward many different types of achievement and exposed to experiences that go beyond their adaptive capacity. Hurried children are stressed by fear of failure of not achieving fast enough or high enough. Hurried children seem to make up a large portion of the troubled children seen by clinicians today (Elkind, 1981). They constitute many of the young people experiencing school failure, those involved in delinquency and drugs, and those who are committing suicide. They also include many of the children who have chronic psychosomatic complaints such as headaches and stomachaches, and who are chronically unhappy, hyperactive or lethargic and unmotivated (Elkind, 1981). These diseases and problems have been recognized as stress-related in adults.

On a more empirical note, when Adam (1968) asked adolescents to note their most pressing problems, school related problems were listed most frequently. West and Wood (1970) reported similar findings. They posed a series of questions about school related stress. Answers to these questions indicated substantial numbers of adolescents (68%) were feeling stress about schooling. They found one-third of a sample of adolescents reported dropping out of some enjoyable activity or hobby because of increased school work and that roughly one-third spent two or more hours daily outside school doing homework.

Wiekhorst (1973) further expanded the West and Wood (1970) questionnaire into a factor analyzed scale. Using this instrument in a study of black adolescents, Coney and West (1979) found that academic pressures are experienced by adolescents in public school and that blacks report more stress than whites in areas such as feeling inadequate at academic performance, fear of failure, and fear of the

consequences of academic failure. Socioeconomics status was not observed as an important factor in this study. So, academic stress appears to be a phenomenon experienced by white as well as black students.

West, Wills and Sharp (1982) did a cross-cultural study comparing early and midadolescents in England and in the United States using Wiekhorst's factor analyzed scale, the Academic Stress Scale. They found that the extent of academic stress appears to be similar across the samples of both cultures. Four factors were common among adolescents in both countries: parental stress, peer stress, importance of school, and fear of failure. They concluded that the academic stress seems to be primarily the result of these nonschool variables rather than in-school variables such as school quality or teacher action.

In summary, studies have found that students experience school stress or academic stress. Results from studies on academic stress indicate that social variables such as peers, parents and teachers, and individual variables such as fear of failure are the major factors contributing to academic stress.

Need for Study

There are some limitations to the academic stress studies. First, these studies used the Academic Stress Scale as the only measurement. Although it consists of a variety of factors, such as parental stress, peer stress, importance of school, etc., it should be used with other measurements to verify its consistency across a variety of measurements. Second, some factors in the Academic Stress Scale are ascribed from only one statement. For example, self-report achievement is determined from a statement: "I earn excellent grades in most of my school subjects." Because of these limitations, it is necessary to use other measures or

methods besides the Academic Stress Scale to measure academic stress among children.

Null Hypotheses

Since academic stress appears to be affected by social variables, such as peers, teachers, and parents, as well as by individual variables such as fear of failure and importance of school, the following null hypotheses are proposed in the present study:

1. Academic stress is not related to locus of control.
2. Academic stress is not related to self-concept.
3. Academic stress is not related to parental education and socioeconomic status.
4. Academic stress is not related to the child's sex and grade.
5. The extent of stress felt by the United States children and by Indonesian children is not different.
6. The relationship between academic stress and academic performance is not curvilinear.

LITERATURE REVIEW

It is felt that day-to-day stress can lead to large, sometimes permanent, declines in IQ scores (Cooke, 1983), cause children to grow prematurely out of childhood (Elkind, 1981), increase children's anxiety (Parfenoff & Jose, 1989), and result in a number of "wear and tear" stress manifestations (Chandler, 1981). Although some attribute this stress to environmental sources (school environment) (Connors, 1983), to today's rapidly changing society (Toffler, 1970; 1974), to personality characteristics — type A and type B — associated with children and youth (Fontana & Dividio, 1984), or to the increasingly mechanistic "processing aspects of present-day life" (Elkind, 1981), the majority of practitioners and researchers are now concluding that student stress is an amazingly complex interplay of a number of variables. The present research will investigate the extent of academic stress and factors related to academic stress such as locus of control, self-concept, and parental education and occupation in children in Indonesia and in the United States.

Definitions of Stress

Moore (1975) defined stress in young people in terms of three different forms: (a) ordinary tension resulting from day-to-day stress; (b) developmental stress that occurs at times of life change or person change; and (c) crisis-related life stress caused by events beyond the child's or youth's control. Schultz (1980) defined student stress by distinguishing two forms: physical and psychological. Though physical stress often results from actual environmental conditions, psychological stress can result from either actual or perceived threatening situations. Chandler (1981) also believes there are actual versus perceived sources of stress, but also poses two conditions as being

prerequisite for increased stress level: (a) the environment must fail to meet the needs of the youth, and (b) the environmental demands must exceed the level to which the child or youth can successfully respond.

Studies of Academic Stress

In recent decades, educators in the United States have been concerned with the extent of stress related to formal behaviors. Patterson (1973) characterizes U.S. students as having behaviors "which result from threat and stress" (p. 142). Elkind (1981) said we force our children to grow up too fast by early formal schooling. The hurried children, those who grow up too fast too soon, are experiencing pressure by fear of failure and of not achieving fast enough or high enough.

On a more empirical level, when Adam (1968) asked adolescents to identify their most stressful problems, school related problems were listed most frequently. Furthermore, West and Wood (1970) reported similar findings when they posed a series of questions to 331 public school students, grades five through twelve. Responses to these questions indicated that 68% of the adolescents were feeling stress about school. They reported that one-third of the sample had dropped out of enjoyable activities or hobbies because of increased school work; approximately one-third spent two or more hours outside school daily doing homework. They also found that students who reported greater amounts of homework were more likely to worry about their academic performance, whereas those students who reported less homework felt less worried. This finding hints that worry about academic performance is not a function of lack of time spent in preparation for an examination, school work, etc., as some have suggested.

Wiekhorst (1973) expanded the West and Wood (1970) questionnaire and factor analyzed it, resulting in the Academic Stress Scale for adolescents. It was developed (1) to measure experimentally the extent

of stress, pressure, or anxiety felt by students about schooling, and (2) to determine experimentally and tentatively the internal and external forces which produce, or are related to, those feelings.

The Academic Stress Scale consists of likert-type items ranging from strongly agree, weighted five, to strongly disagree, weighted one. One example of the questionnaire is: "I often worry about what my parents will say about my grades."

From the very beginning of the scale development, it was hypothesized that other people, such as peers, parents, and teachers, do apply pressure to students to perform well in school. The students' own characteristics and traits (internal forces) were thought to be important as well. The scale was designed to measure academic achievement with sensitivity to both internal variables (self) and social or external variables (parents, teachers and peers).

Coney and West (1979) then used this instrument in a study of black and white adolescents across social classes. They found that the academic pressures are experienced by adolescents in public school and that black students reported more pressure than white students in some areas. They classified father's occupation status in one of eight categories, in which three categories were considered lower class (unskilled laborer, semiskilled laborer, and skilled laborer), and the other categories were considered middle class (lesser white-collar worker; small business owner, manager and salesman; semiprofessional and public administrator; business agent and manager; and professional). This division point also separates the blue and white collar subjects. However, they did not find significant difference in stress by socioeconomic status; they concluded that academic stress appears to be a phenomenon experienced by white as well as black students.

Further, West, Wills, and Sharp (1982) did an academic stress study comparing early and midadolescents in England and the United States, using Wiekhorst's factor analyzed scale, the Academic Stress Scale. They reported that the extent of academic stress appears to be very similar across the two cultures. Four factors, parental stress, peer stress, importance of school, and fear of failure, were common among adolescents in both countries.

West et al. (1982) also investigated several other variables, including school enjoyment, parental occupation status, self-report achievement, and career aspiration. They found that self-report achievement is positively correlated with importance of school and total stress. Career aspiration is significantly and positively correlated with the importance of school. As might be expected, high parental occupation status is significantly and positively correlated with fear of failure, importance of school, parental stress, and total stress. Ironically, school enjoyment is positively correlated with fear of failure and total stress, which is somewhat puzzling. Also puzzling is the fact that school enjoyment and importance of school were significantly and negatively correlated.

In summary, results from the studies of academic stress suggest that academic stress is not a function of the actions of the teacher nor the high frequency of testing. From these data, one could conclude that social and individual difference variables are major forces contributing to academic stress.

Stress and Locus of Control

Recent studies show that a child's personal attitudes also influence academic achievement. Locus of control, defined as a generalized expectancy for internal or external control refers to the perception that an event or an outcome is the result of one's own

action. External control refers to the perception that reward and punishment are not contingent on one's own action. Rotter (1966) hypothesized that internal perceptions are related to achievement performance. Research has shown a positive relationship between internal beliefs of locus of control and academic achievement (Crandall, Katkovsky, & Crandall, 1965; Findley & Cooper, 1983).

Lefcourt, Miller, Ware, and Sherk (1981) found a significant correlation between locus of control as measured by the Children's Nowicki and Strickland Locus of Control Scale (1973) and stress, measured by the Life Event Scale (LES) (Sarason, Johnson, & Siegel, 1978). They found that higher levels of stress would be expected among persons who perceived control over their lives as largely external. However, these measurements look at a very general aspect of locus of control as well as general stress in life.

Crandall et al. (1965) developed the Intellectual Achievement Responsibility (IAR) Questionnaire, consisting of 34 forced-choice items. Each item stem describes either a positive or a negative achievement experience which routinely occurs in children's daily lives. This stem is followed by one alternative stating that the event was caused by the child or another alternative stating that the event occurred because of the behavior of someone else in the child's immediate environment. Thus, the IAR questionnaire shares the aim of other locus of control measurements in that it attempts to measure beliefs in internal versus external reinforcement responsibility. However, it differs from the other locus of control measurements in several respects. First, questions in the other instruments describe reinforcements in a number of motivational and behavioral areas, such as affiliation, dominance, achievement, and dependency. In contrast, the IAR questionnaire was developed within the context of research dealing

with children's achievement development. Thus, it is aimed at assessing children's beliefs in reinforcement responsibility exclusively in intellectual academic achievement situations. Second, the IAR questionnaire differs from the other measurement methods in the external environmental forces described. While previous scales include a variety of sources and agents, such as luck, fate, and impersonal social forces, the IAR questionnaire limits the source of external control to those persons who most often come in face-to-face contact with the child, such as parents, teachers, and peers.

Using this Intellectual Achievement Responsibility Questionnaire, Ismail and Ng (1985) in their study of Malaysian Primary School children found that locus of control (IAR) was correlated significantly with academic achievement. That is, those students who were internally oriented scored higher on mathematics, sciences and languages (English and the national language). They also measured the relationship between academic achievement and anxiety. State anxiety (A-State) which refers to transitory anxiety had a negative relationship to academic achievement. Students who scored higher on the state anxiety scale tended to have poorer academic achievement. Results from a regression analysis indicated that along with the presence of general intellectual ability measured by Otis-Lennon School Ability Test, Primary L (Otis & Lennon, 1979), locus of control and state anxiety are significant predictors of academic achievement.

Walden and Ramey (1983) also used the IAR as a measure of locus of control and its relation with academic achievement. The authors investigated the relationship between children's beliefs in personal control over their successes and failures and academic achievement. Children who had been judged to be at risk for academic difficulties and had participated in a 5-year efficacy-oriented intervention, which

supports optimal development in language, cognitive and social areas through attending educational day care programs, were compared to a group of high-risk nonintervention children and a low-risk comparison group. They found that the high-risk intervention and low-risk children had stronger beliefs in personal control over academic success, and these beliefs were good predictors of academic achievement. Also the results indicated that IQ scores were not related to achievement in intervention children. Thus, it seems that the influence of socializing environments in establishing beliefs in personal control was a major contribution to academic achievement.

In light of these research findings, one could conclude that general locus of control is correlated with general stress, and locus of control is a good predictor of academic achievement. Since this research deals with children's achievements, the Intellectual Achievement Responsibility (IAR) will be used as a measure of locus of control. Locus of control will be examined in relation to very specific stress, academic stress.

Stress and Self-concept

The research on self-concept and academic achievement is characterized by increasingly complex attempts to elaborate on the relation between the two variables. Hansford and Hattie (1982) demonstrated that there are incredible, diverse findings, and they found correlations ranging between -.77 and .96. The typical values, however, were closer to .21, or the amount of variance in common between self-concept and academic achievement was between .04 and .07. Despite the very small relations, researchers continue to explore the effect of self-concept on achievement, and vice versa (Scheirer & Kraut, 1979; Shavelson & Bolus, 1982).

In a study of Korean adolescents, Song and Hattie (1984) found that self-concept has a significant positive impact on academic achievement; that is, students who had high self-concept had higher grade point averages in mathematics, languages, social studies and sciences. However, when comparing the general self-concept construct with academic self-concept, the correlation between general self-concept (which includes academic self-concept, social self-concept and presentation of self), and academic achievement is lower than the correlation between academic self-concept itself (which measures specific self-concept, such as math self-concept, reading self-concept, language self-concept, and social studies self-concept) and academic achievement.

Similar findings were also found by Maqsud (1983) who tested Nigerian secondary school pupils. Maqsud found a positive correlation between self-concept, measured by the Brookeover Scale of Self-Concept of Academic Ability, and the students' performance on English and mathematics tests.

Furthermore, in an extensive meta-analysis, Hansford and Hattie (1982) found that achievement correlated with general self-concept at about .2 and with academic self-concept at about .4.

In summary, these findings suggest that self-concept constructs have indirect effects on academic achievement, mediated by academic self-concept.

The present study will investigate the relationship between academic stress and self-concept since there is no study dealing with self-concept and academic stress. However, since this study will examine academic stress in the context of general or overall academic achievement, Rosenberg's Self-Esteem Scale which measures general self-concept, rather than a scale that measures self-concept in a

specific area of achievement, will be used. Furthermore, Marsh (1984) has demonstrated that specific academic achievements (e.g., math and reading) are most highly correlated with matching academic self-concept, are less highly correlated with nonmatching academic self-concept, and are relatively uncorrelated with nonacademic self-concept. On the basis of this research, Marsh, Smith, and Barnes (1984) derived a model which predicts that (a) math and reading self-concept are relatively uncorrelated with each other, despite high correlations between math and reading achievements; (b) math achievement has a substantial and positive direct effect on math self-concept, but has a less substantial or negative direct effect on reading self-concept; and (c) reading achievement has a substantial and positive direct effect on reading self-concept, but has a less substantial and negative direct effect on math self-concept. This theory has been supported by Marsh (1984) in the study of relations among dimensions of self-attribution, dimension of self-concept, and academic achievement of a sample of Australian fifth graders. Hence, it has been demonstrated that the relation between achievement and academic self-concept shows a strong content-specific linkage. So, even though many studies prefer to use an academic self-concept scale when testing the relationship between self-concept and academic achievement, the present study will use Rosenberg's Self-Esteem Scale which measures a general self-concept since this study utilizes an overall school performance measure.

Parental Education, Socioeconomic Level and Academic Stress

Many studies have demonstrated that parental encouragement and expectation have a direct effect on achievement. Keeves (1972) studied parents of sixth grade boys and girls, and found that children's achievement in mathematics was correlated with mother's ambitions for children (r = .52) and children's academic achievement in science was

correlated with father's ambitions for the child (r = .41) and with mother's attitudes toward education (r = .41). Gigliotti and Brookover (1975) found a high relation (r = .79) between perceived parents' expectation in their children's level of school performance and the children's academic achievement. Seginer (1982) found a direct relationships between child's academic performance and mother's expectation of desired or estimated scores on report cards (r = .59).

Further, there is no consistency among findings of studies of relationships between parental socioeconomic status and academic achievement. Maqsud (1983) measured the socioeconomic background of Nigerian secondary school students using a brief questionnaire which required the subjects to give information on their parents' educational and occupational background. Maqsud found that socioeconomic background had significant positive effects on academic achievement. However, Song and Hattie (1984) found that social status which included the father's occupation, parents' education, and the ability to afford further education was not directly related to academic achievement. In Song and Hattie's (1984) study, self-concept is a mediating variable between social status and academic achievement. In contrast to these findings, Swearingen and Cohen (1985) found no relationship between socioeconomic status, estimated by father's education and life events stress of the junior high students (Hollingshead, 1957).

In relation to these findings, the present study will investigate the relationship between parental education and socioeconomic level and academic stress. The argument here is based on the prediction that the higher parental education and socioeconomic level the higher their expectation for their children's academic achievement, and thus, the higher the child's academic stress.

Cross-cultural Studies of Academic Stress

West et al. (1982) have demonstrated the extent of academic stress among early and midadolescents in England and in the United States. They found that academic stress appears to be very similar across the two cultures. Four factors emerged: parental stress, peer stress, importance of school, and fear of failure. These factors are common among adolescents in both countries. One main difference in percent of common variance was noted. In the factor analysis, the common variance for the United States' subjects is 33% whereas for English subjects the common variance is 22%. The common variance for other factors is roughly equivalent. It seems that peer stress was a more important factor in the United States than in England among early adolescents. According to West et al. (1982), one possible explanation for the difference was the tendency for the English adolescents to cooperate while responding to the scale. The English subjects tended to form groups while responding to the first few items, until the experimenters reminded them to work alone. In contrast, "group" formation prior to responding in a test-like situation is not typical of U.S. adolescents. When they did attempt cooperation, teachers tended to infer cheating. It could be that this difference in the peer stress scale is yet another reflection of the U.S. emphasis in competitive learning as compared to cooperative learning (Sharan, 1980; Slavin, 1980).

The present study will investigate the similarities and differences among school age children and early adolescents in the United States and Indonesia in relation to the four factors of academic stress and total academic stress. Additionally, characteristics of the children (sex and grade) will be examined to determine if these characteristics affect academic stress differently in the U.S. and Indonesia.

METHODOLOGY

Purpose

The primary purpose of this research study was to investigate the extent of academic stress in children. Of secondary interest was the relationship of self-concept, locus of control, parental education and socioeconomic level to academic stress, and the comparison of these effects among children in the United States and in Indonesia.

Subjects

Subjects for the study were 383 children ranging in age from 9 to 15 years with a mean age of 10.5 years. The children were in fourth, fifth, and sixth grades and were enrolled in schools in central Iowa, U.S.A. and in Palembang, Indonesia. There were 227 Iowa children (92 fourth graders, 73 fifth graders and 62 sixth graders). The Indonesian children numbered 156 (52 fourth graders, 53 fifth graders and 51 sixth graders), with 184 girls and 197 boys. The response rate from Indonesian children was 100% and 53% from U.S. children. Because data were collected very late in the springe, there was little time for reminders. One reminder was sent from the school to the parents.

The Iowa children were mostly Caucasians who lived in a small town adjacent to a university community. The Indonesian children were enrolled in a private school and lived in a large city. The schools were chosen because they had relatively large enrollments and were accessible to the researcher.

Potential subjects who were not included in the final sample did not qualify for at least one of the following reasons: (a) parental consent was not given, (b) the child refused to complete the questionnaires, (c) the child was not in school due to illness at the time of administration of the questionnaires, or (d) they were dropped

due to problems with data collection.

Because principals in the U.S. schools asked that data on homework be collected from U.S. children and teachers, teachers (N = 21) of all the U.S. children in the study were administered a short questionnaire. Data from Indonesian children had been collected prior to the decision to include U.S. teachers, so no data were collected from teachers in Indonesia.

Instruments

Four instruments were used in the present study. The Academic Stress Scale (West et al., 1982) was used to test the academic stress of children (see Appendix A). The Rosenberg's Self-Esteem (RSE) Scale (Rosenberg, 1979) was used to assess the self-concept (see Appendix B). The Intellectual Achievement Responsibility (IAR) scale (Crandall et al., 1965) was used to assess locus of control (see Appendix C). The Demographic Questionnaire was used to assess parental education and occupational status (see Appendix D). The Student Activity Questionnaire was used to assess self-rating in school performance, homework, and activities (see Appendix E); the Teacher Questionnaire was used to assess teacher's rating on how much homework they assign to their students.

Academic Stress Scale. The Academic Stress Scale is a self-report scale designed specifically to identify the perceived academically related stimulus conditions that evoke an emotional response or anxiety in individuals (Wiekhorst, 1973). The Academic Stress Scale was developed to (a) measure experimentally the extent of stress, pressure, or anxiety felt by students about schooling, and (b) to determine experimentally and tentatively the internal and external focus which produces, or is related to, these feelings.

From the very beginning of the scale development, it was hypothesized that other people (peers, teachers, and parents) do apply pressure on students to perform well in school. The student's own characteristics and traits (internal forces) were thought to be important, as well. It was expected that these internal and external forces would vary between individuals and that within individuals there would be measurable variability in both "internal" and "external" forces. It is known that individuals differ in their ability to tolerate stress, pressure, or anxiety. It is assumed that the point of intolerance for the purpose of this research is the point at which the "pressure" begins to debilitate academic performance. The scales were designed and developed with sensitivity to both internal variables and social or external variables.

West et al. (1982) compared U.S. and English children using the Academic Stress Scale. The form used in the U.S. had thirty-five likert-type items ranging from strongly agree, weighted five, to strongly disagree, weighted one; three items relating to school enjoyment, concern about leaving school without qualifications, and career aspiration were added for the English children. This thirty-eight item scale was used in the present study. The test-retest reliability of the Academic Stress Scale is fairly high, .78.

Research on the academic stress instrument has yielded four major factors: peer stress, parental stress, fear of failure, and importance of school (West et al., 1982). The present study will investigate the extent of academic stress among children in the United States and in Indonesia and also investigate the similarities and differences in factors of academic stress.

Self-concept. Rosenberg's Self-Esteem (RSE) Scale is a unidimensional nature that includes a global perception of self. His

10-item scale taps content involving the degree to which one is satisfied with his or her life, feels he or she has a number of good qualities, has a positive attitude toward oneself, feels useless, desires more self respect, or thinks oneself a failure.

Wylie's (1974) review of this instrument is quite favorable. She notes that one merit of its brief, direct approach is that it does not assume that a group of items with heterogeneous content, chosen by the experimenter, and of variable and unknown salience to subjects may be summed to indicate global self-regard. Rosenberg (1965) reported a .92 index of reliability for his New York high school subjects, and stated that he obtained a slightly higher reliability in a group of 560 British adolescents. Silber and Tippett (1965) obtained a two-week test-retest reliability coefficient of .85 for 28 college subjects.

Further, Silber and Tippett (1965) correlated the RSE scores against three other measures of self-esteem: (a) Kelly Repertory Test, sum of (self-ideal) discrepancies, on 20 bipolar dimensions, $\underline{r} = .67$, (b) Heath Self-Image Questionnaire, sum of 20 selected items, $\underline{r} = .83$, and (c) Interviewer's rating of self-esteem, $\underline{r} = .56$. Their subjects were 44 college students who volunteered for extensive research participation, in which 7 students were hospitalized for emotional disturbances and 37 were normal volunteers. These convergent validities are among the highest in cross-instrument correlations (Wylie, 1974).

Demographic questionnaire. The parents were asked to complete a demographic questionnaire from which the Four Factor Index of Social Status (Hollingshead, 1975) scores were computed. Hollingshead scores are indices of the family's social economic position. This index is based on the view that social status is a multidimensional concept. The four factors are occupation, education, marital status, and gender. Although the index is usable for either gender, gender does not enter

into the computations and thus, in actuality, the resulting composite score is based only on three factors. Occupation is keyed to the approximate 450 occupational titles and codes of the 1970 United States census and is graded on a 9-point scale.

The educational factor is based on the number of years of school achievement scored on a 7-point scale ranging from less than seventh grade to graduate professional training.

The four factor index allows estimating the social status of an unmarried individual (male or female), the head of a household (male or female), or of a family in which both husband and wife are gainfully employed. In the latter case, the occupational and educational scores of both spouses are incorporated into the calculations. The index also estimates the social status of families without spouses and with retired persons.

So, the status score of an individual or a nuclear family unit is estimated by combining information on sex, marital status, education, and occupation. The status score of an individual is calculated by multiplying the scale value for occupation by a weight of five and the scale value for education by a weight of three. These two scores are then added to get the index score (see Table 1). The index score falls into a Hollingshead social strata which in effect is the index of social strata (see Table 2).

The correlation between median years of school completed and occupational score group for the Civilian Labor Force in 1970 was .70 for males and .72 for females. The coefficient of correlation is essentially the same for males and females. The correlation of the median income earned (in dollars) and occupational score for the Civilian Labor Force in 1970 is .61 for males and .45 for females (Hollingshead, 1975).

Table 1. Computation of the Four Factors of Social Strata

Factor	Social score	x	Factor weight	=	Score
Occupation	(refer to list)		5	=	a
Education	(refer to list)		3	=	b
					a + b

Table 2. Index of Social Strata

Social strata	Range of scores
Major business, professional	66–55
Medium business, minor professional technical	54–40
Skilled craftsman, clerical, sales workers	39–30
Machine operators, semiskilled workers	29–20
Unskilled laborers, menial service workers	19–8

Student Activity Questionnaire. The investigator also administered a Student Activity Questionnaire asking how the children rank themselves in terms of school performance in relation to their peers, what grades they think they get, how many activities they have outside of school, how much time they spend doing homework daily, and how many days per week they think they have free time to do what they want to do. This questionnaire was given to the U.S. children, due to confidentiality concerns in obtaining actual school performance. In Indoensia, however, the actual school performance obtained from school reports was made available to the researcher.

Teacher Questionnaire. The Teacher Questionnaire, completed by each U.S. teacher, asked how many hour(s) their students spent doing homework and how much homework they assigned students each week. The Teacher Questionnaire was intended as a comparison to the Student Activity Questionnaire to see if student self-ratings on academic performance, homework and activity were consistent with the teacher's rating. This questionnaire was designed at the suggestion of the three school principals in the United States. Since the data from Indonesia had been collected earlier than the United States data, the Teacher Questionnaire was not available for the teachers in Indonesia.

Procedure

After written approval was obtained from the Iowa State University Committee on the Use of Human Subjects in Research, the investigator sent letters to schools to get permission to test the children at their school. Then letters of parent permission were sent along with demographic questionnaires asking for parents' education and occupation status. One reminder was sent to parents in both countries. Finally,

the investigator administered the questionnaires to the children at school.

Early in January 1989, the investigator administered the Academic Stress questionnaire, the Rosenberg's Self-Esteem questionnaire and the Intellectual Achievement Responsibility questionnaire to the 156 Indonesian subjects. The questionnaires were translated into the Indonesian language by the investigator and were verified by the principal at the Palembang School. The questionnaires were administered in groups during class time and took approximately 45 minutes per group. The children's school performances were obtained from the report cards through the principal and the teachers.

To administer questionnaires at schools in central Iowa, the investigator was accompanied by a native English speaking person who read the questions to the children. The students were told that this was part of a study to find out what kind of situations cause stress for students. As in Indonesia, the questionnaires were also given to groups during class time and took approximately 45 minutes.

Statistical Analysis

In evaluating the data, frequencies and Pearson product moment correlations were first obtained for each variable in the questionnaires. The Pearson correlations were also conducted for the total scores of each questionnaire and for the four factors in the Academic Stress Scale (peer pressure, parental pressure, importance of school and fear of failure). Then analysis of variance using general linear model (GLM) was done with six variables (child's sex, and grade in school; mother's education status, father's education status, socioeconomic level and culture) to see if any of those variables significantly affected the academic stress, locus of control, or self-concept of the child.

Further, factor analysis was done on items of the Academic Stress Questionnaire to see if four factors of the Academic Stress Scale on the present study were different from the factors in the West et al. (1982) study.

Comparisons on children's self-ratings and teachers' ratings on homework were done using the t-tests.

RESULTS AND DISCUSSION

The present study was designed to investigate academic stress among school age children and early adolescents in the United States and in Indonesia and to investigate the relationship between academic stress and locus of control, self-concept, parental educational and socioeconomic status, and school performance.

The null hypotheses for this study were as follows:

1. Academic stress is not related to locus of control.
2. Academic stress is not related to self-concept.
3. Academic stress is not related to parental education and socioeconomic status.
4. The extent of stress felt by the United States children and by Indonesian children is not different.
5. Academic stress is not related to the child's sex and grade.
6. The relationship between academic stress and academic performance is not curvilinear.

Results related to each of these hypotheses will be presented and discussed in this section. The findings are presented first for the total group (the United States and Indonesian children), and then for the two cultures separately. Correlations in Tables 3 and 4 will be referred to throughout this section. Limitations of the study, practical implications, and suggestions for further research will also be noted.

Academic Stress and Locus of Control

To test the first null hypothesis that academic stress is not related to locus of control, Pearson correlations were run. When lumping together all the independent variables (child's grade in school and culture; father's and mother's education; socioeconomic status), the

correlation between academic stress and locus of control for total groups was not significant (see Table 3). When correlations were run within the two cultural groups separately, the correlation between academic stress and locus of control was not significant in either culture (see Table 4). Thus, the first hypothesis was not rejected.

This finding was surprising. Although there is no research on the relationship between locus of control and academic stress, research indicates that locus of control is related significantly to general stress. That is, an external oriented person will experience more stress than an internal oriented person (Sarason et al., 1978). Thus one might expect that a person with external locus of control would have more academic stress than a person with internal locus of control since persons with a more external origin would appear to be responding to outer forces to succeed in school.

Academic Stress and Self-concept

To test the second hypothesis concerning academic stress and self-concept, Pearson correlations were run. For the total group, there was a negative and significant correlation between academic stress (peer pressure, parental pressure and total score) and self-concept (see Table 3).

When examining the Indonesian children and the United States children separately, academic stress and self-concept were significantly and negatively correlated for the United States children. Three of the four factors in the Academic Stress Scale, peer pressure, parental pressure and fear of failure, plus the total score were correlated negatively with self-concept. However, they were not significantly correlated for Indonesian children (see Table 4). Therefore, the second hypothesis, academic stress is not related to self-concept, was partially rejected.

Table 3. Pearson correlations for the total group of United States and Indonesian children

Academic Stress Factors	Locus of Control	Self-concept
Peer Pressure	.03	-.20***
Parental Pressure	.04	-.22***
Importance of School	.11	-.03
Fear of Failure	-.05	-.11
Total Score	.05	-.19***

***p < .001.

Table 4. Comparison of Pearson correlations of the United States and Indonesian children

Academic Stress Factors	Locus of Control		Self-concept	
	U.S.	Indonesian	U.S.	Indonesian
Peer Pressure	.04	-.11	-.33****	-.09
Parental Pressure	.05	-.06	-.30****	-.12
Importance of School	.12	-.03	-.10	-.03
Fear of Failure	.06	-.15	-.25***	-.08
Total Score	.07	-.10	-.31****	-.09

***p < .001.

****p < .0001.

Most studies examining self-concept and academic achievement indicate a positive relation between self-concept and academic achievement; that is, high self-concept relates to high academic achievement (Song & Hattie, 1984; Maqsud, 1983; Marsh, 1984). Even though there are no studies on the relationship between self-concept and academic stress, one might expect that a person with a high self-concept would have lower academic stress, as found in the United States children, and thus have higher academic achievement, as found in these earlier studies. However, this was not true in the Indonesian children. It may be that academic stress is defined differently in Indonesia. Academic stress may be felt as worriness and therefore, it is temporary and specific to a situation, such as worry about a grade in a test.

Parental Education, Socioeconomic Status, and Academic Stress

To test the third hypothesis, academic stress is not related to parental education and socioeconomic status, analyses of variance using the general linear model (GLM) were performed with father's education, mother's education and parental socioeconomic status to determine if any of these variables had any effect on academic stress for the total group as well as the two cultural groups.

The analyses of variance using GLM for the total groups showed a significant effect for father's education on fear of failure, $F(1,343) = 7.03$, $p < .01$. When examining the correlation of father's education and fear of failure, a negative relation was found; that is, the higher father's education, the lower fear of failure ($r = -.16$). However, analyses of variance using GLM for the two separate cultural groups indicated there was no effect of father's and mother's education and socioeconomic status on academic stress.

Therefore, the hypothesis that academic stress is not related to parental education and socioeconomic status was partially rejected.

This finding is puzzling because it was expected that the higher the father's education level, the higher the child's academic stress. It is also puzzling that there was a significant effect of father's education status for the total group, yet the effect of it was not present for either group tested separately.

The effect of mother's education status on academic stress was not significant. However, this finding was questionable since most of the mothers in this study have lower education status than the fathers and most of them, especially in Indonesia did not continue their education after elementary school.

The effect of socioeconomic status on academic stress also was not significant. this finding was also questionable. Socioeconomic status was measured by parental education and occupational status. However, most mothers have lower level of education status than father's and most of them, especially in Indonesia, do not work outside the home. Hollingshead's four factor index of social status (1975) does not give any rating to these mothers who do not work. Therefore, socioeconomic status was not measured accurately, since most of the data only came from the father's education and occupational status.

Child's Sex, Grade, Culture and Academic Stress

To test the fourth and fifth hypotheses, analyses using GLM were performed on child's sex, grade, and culture to see if these variables affected academic stress. Each academic stress factor will be discussed separately.

Peer pressure. When examining the total group, girls had higher peer pressure than boys, $F(1,340) = 4.60$, $p < .05$, (see Table 5). Boys had higher peer pressure in higher grades in school, but girls had lower peer pressure in higher grades in school, $F(2,340) = 4.70$, $p < .01$, (see Table 6).

In addition, the United States children felt more peer pressure than the Indonesian children, $F(1,340) = 19.14$, $p < .0001$, (see Table 7). At sixth grade, peer pressure increased for the United States children, but it decreased for Indonesian children, $F(2,340) = 6.57$, $p < .01$, (see Table 8). Also as grade increased, peer pressure increased for boys in the United States, but it decreased for boys and girls in Indonesia and for girls in the United States, $F(2,340) = 2.98$, $p < .0524$, (see Table 9). Although the latter finding was barely significant, it depicts the interaction of sex by grade by culture (see Figure 1).

Peer stress seems to be higher in the United States than in Indonesia. One possible explanation for the difference is the tendency for the United States schools to emphasize competitive learning for their children, whereas in Indonesian schools, cooperative learning is more emphasized.

Parental pressure. For the total group, boys in higher grades felt more parental pressure, but girls in higher school grades felt less parental pressure, $F(2,338) = 6.05$, $p < .01$, (see Table 6). Indonesian children felt more parental pressure in the fifth grade than the United States children, but at sixth grade, the United States children felt more parental pressure, $F(2,338) = 10.81$, $p < .0001$, (see Table 8).

This finding was surprising. Parental pressure was expected to be higher in Indonesian than in U.S. children. The Indonesian culture puts high emphasis on obedience to authority figures. Thus, one would expect higher parental pressure in Indonesia than in the United States.

Importance of school. Indonesian children had a higher importance of school score than the United States children, $F(1,345) = 24.29$, $p < .0001$, (see Table 7). At sixth grade, the boys and girls in Indonesia and the girls in the United States had lower scores on the

Table 5. Means for Sex Variables for Peer Pressure

Sex	Means
Boys	59.5
Girls	63.4

Table 6. Means for Sex by Grade Interaction for Peer Pressure, Parental Pressure, Fear of Failure, and Total Academic Stress

Sex	Grade	Peer Pressure Means	Parental Pressure Means	Fear of Failure Means	Total Academic Stress Means
Boys	4th	57.4	48.3	28.7	124.9
Girls	4th	65.7	52.9	30.6	137.0
Boys	5th	59.0	51.4	28.3	129.7
Girls	5th	63.3	51.5	28.9	132.1
Boys	6th	63.0	54.9	31.5	134.8
Girls	6th	60.6	50.7	29.0	128.4

Table 7. Means for Culture Groups for Peer Pressure and Importance of School

Culture	Peer Pressure Means	Importance of School Means
U.S.	64.0	33.7
Indonesia	57.5	36.9

Table 8. Means for Culture by Grade Interaction for Peer Pressure, Parental Pressure, Fear of Failure and Total Academic Stress

Culture	Grade	Peer Pressure Means	Parental Pressure Means	Fear of Failure Means	Total Academic Stress Means
U.S.	4th	63.3	50.7	29.3	130.4
Indonesia	4th	58.4	50.3	30.3	131.8
U.S.	5th	61.7	49.6	27.7	126.6
Indonesia	5th	59.8	54.0	29.7	136.7
U.S.	6th	67.5	55.9	31.4	136.3
Indonesia	6th	54.3	48.7	28.7	125.5

Table 9. Means for Sex by Culture by Grade Interaction in Peer Pressure and Importance of School

Sex	Culture	Grade	Peer Pressure Means	Importance of School Means
Male	U.S.	4th	58.0	33.5
Male	U.S.	5th	59.0	31.6
Male	U.S.	6th	70.6	34.2
Male	Indonesia	4th	56.5	35.4
Male	Indonesia	5th	59.0	38.3
Male	Indonesia	6th	53.0	36.1
Female	U.S.	4th	68.5	35.5
Female	U.S.	5th	64.4	33.9
Female	U.S.	6th	64.5	32.9
Female	Indonesia	4th	60.4	37.8
Female	Indonesia	5th	61.3	36.6
Female	Indonesia	6th	55.6	36.9

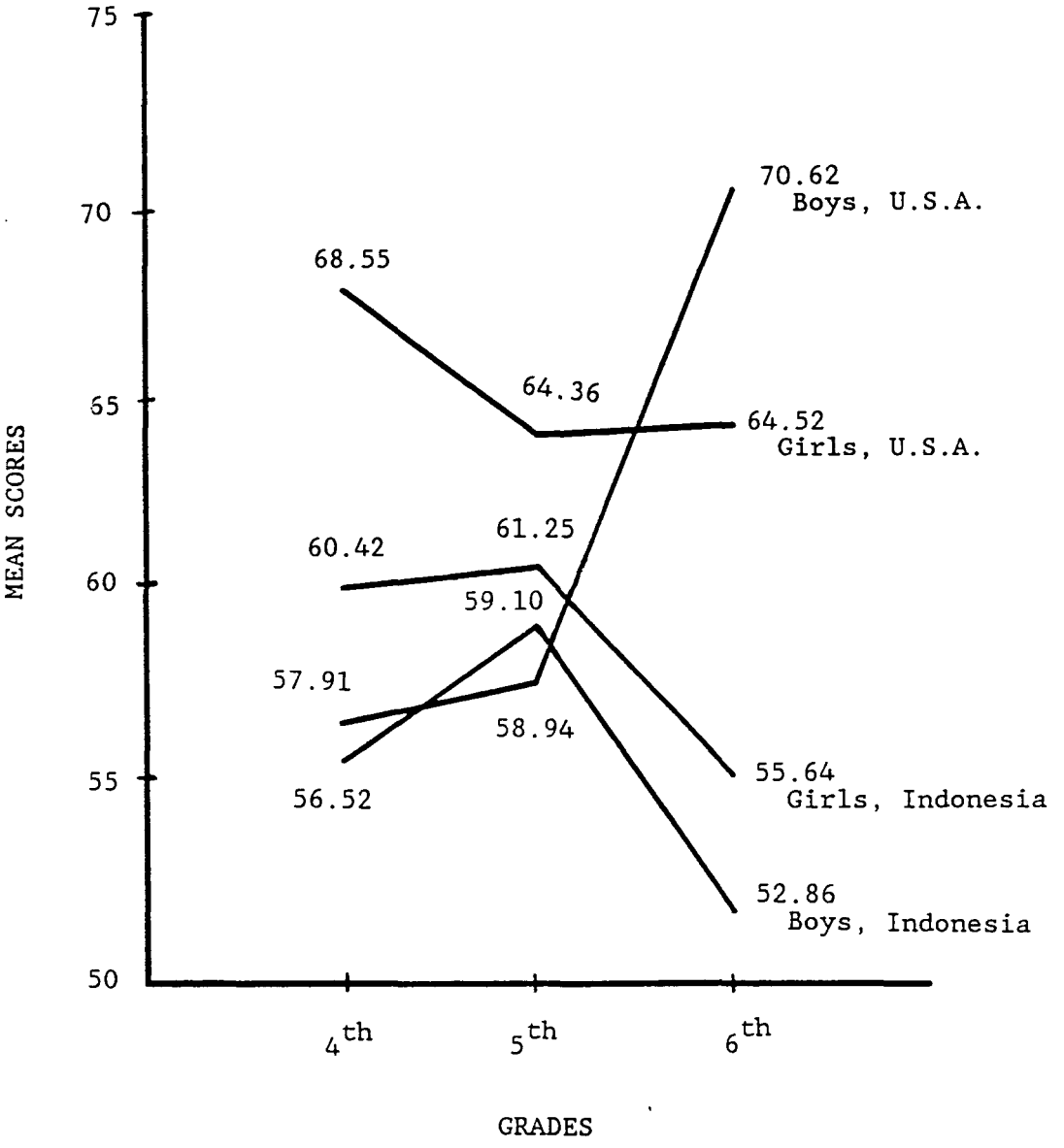

Figure 1. Sex by grade by culture interaction in peer pressure.

importance of school compared to children in fourth and fifth grade; however, for boys in the United States, the importance of school score was higher at sixth grade than when they were in fourth and fifth grade, $F(2,345) = 3.04$, $p < .05$, (see Table 9).

Education was valued higher in Indonesia than in the United States. One possible explanation is the attitude of the U.S. children who take education for granted, whereas in Indonesia there are not a lot of good schools and it is very hard to be accepted into a good school. Also the Indonesian society values a good education as an important predictor of a good future. Thus, importance of school is valued higher by Indonesian children than U.S. children.

Fear of failure. For the total group, at fourth and fifth grades, boys felt less fear of failure than girls, but at sixth grade, boys felt more fear of failure than girls, $F(2,343) = 4.29$, $p < .05$, (see Table 6). At fourth and fifth grades, fear of failure was greater for Indonesian children than for the United States children; at sixth grade, fear of failure was felt greater by the United States children than Indonesian children, $F(2,343) = 5.40$, $p < .01$, (see Table 8).

It seems that fear of failure is not different between Indonesian and the United States children; this factor may not be culture specific. It is expected that fear of failure is experienced by U.S. children as well as Indonesian children.

Total Academic Stress. For the total groups, boys felt more overall stress as the grade increased, but girls felt less stress as grade increased, $F(2,333) = 5.92$, $p < .01$, (see Table 6). At fourth and fifth grades, Indonesian children felt more academic stress than the United States children, but at sixth grade the United States children felt more stress than Indonesian children, $F(2,333) = 8.24$, $p < .001$, (see Table 8).

These findings were puzzling. It was expected that boys in Indonesia would have more stress than girls because of higher expectations for boys than girls to achieve a better education. However, a similar expectation may not hold true for the United States children. Since U.S. boys and girls are expected to continue their education to a higher level, academic stress might be the same for boys and girls.

In addition, throughout the findings of total academic stress and its four factors and children's sex and grade, boys in the United States have higher academic stress compared to boys and girls at lower grades in the United States and boys in Indonesia. This finding was surprising as Indonesian children are expected to have higher academic stress at sixth grade, because of pressures to graduate from the elementary school. Also, since there are not many good junior high schools compared to the number of children who apply to get into these schools, the pressure is high toward the end of elementary years to get good school reports. This does not apply to the United States children since they are required by law to go to junior high school.

In conclusion, the child's sex, grade and culture affected academic stress. Thus, the fourth hypothesis that academic stress is not related to the child's sex and grade, was rejected. Also, the fifth hypothesis that the extent of stress felt by the United States children and by Indonesian children is not different, was rejected.

Academic Stress and School Performance

When school performance was plotted against academic stress using an SAS plot procedure, its relationship for the total group and for Indonesian children was not curvilinear. However, the relationship was curvilinear for the U.S. children. That is, U.S. children with a moderate academic stress did better at school than the children with low

or high academic stress. One possible explanation is that low or high stress would decrease one's motivation, whereas moderate stress would give the person enough motivation but not too much to cause anxiety.

The difference on this finding between Indonesian children and U.S. children may result from how the academic performance was reported. U.S. children gave self-ratings of academic performance whereas Indonesian children gave their actual academic performance.

Other Findings

The four factors of academic stress, peer pressure, parental pressure, importance of school and fear of failure, from West et al.'s (1982) data on sixth graders were used on the present study. When a four factor analysis was done on the present data, the items within each factor were similar to those items in West et al.'s (1982) study (see Appendix H). However, the scree plot of these factors indicated that only two factors accounted for most of the items in the Academic Stress Scale.

Furthermore, the correlation coefficients between factor scores based on the four factor solution for the Academic Stress Scale indicated that these factors correlated significantly, and thus were not independent of each other. A very high correlation between peer pressure and parental pressure was also noted (see Table 10).

After considering these correlations and the scree plot from the four factor analysis, a varimax rotation on two factors of the Academic Stress Scale was performed. Items for the two factors are found in Appendix I. These two factors have been named external pressure and internal pressure. This factor analysis indicates that further study should be done considering only two factors instead of four factors in the Academic Stress Scale.

Table 10. Correlations among Factor Scores for Academic Stress

Academic Stress Factors	Peer Pressure	Parental Pressure	Importance of School	Fear of Failure
Peer Pressure	1.00	-	-	-
Parental Pressure	.84****	1.00	-	-
Importance of School	.35	.44****	1.00	-
Fear of Failure	.63****	.74****	.56****	1.00

**** $p < .0001$

Further, for all children in all grades, there was a significant difference between teachers' ratings (N = 21 teachers) and children's ratings (N = 227 students) on how much homework time students spend in an average day, $t(246) = 7.59$, $p < .0001$. Teachers reported that their students spend less homework time (M = .51 hours) than what their students think they spend (M = 1.88 hours). These findings held true when children's and teachers' ratings were compared at each of the three grade levels (Grade 4, N = 6 teachers, 92 students: $t(96) = 7.92$, $p < .0001$, M = .40 hours vs. M = 1.81 hours; Grade 5, N = 8 teachers, 73 students: $t(79) = 7.94$, $p < .0001$, M = .55 hours vs. M = 1.94 hours; Grade 6, N = 7 teachers, 62 students: $t(67) = 8.18$, $p < .0001$, M = .57 hours vs. M = 2.37 hours).

Limitations, Practical Implications, and Suggestions

Cross-cultural study is a complex process. It is more than trying to translate the language accurately. The investigator in a cross-cultural study must be aware of many differences between the cultures in relation to the research. Giving the same tests or the same questions to different cultures may not yield valid responses. For example, one difficulty faced in the present study was in assessing socioeconomic status. The socioeconomic status for the United States subjects was assessed by the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975). This index classified and ranked occupational status based on the 1970 United States Census. In Indonesia, there is no uniform index for all types of occupations that can estimate socioeconomic status. The procedure often used in Indonesia is to ask about the possessions of the family, such as whether they have a car or color TV. Based on the possessions, an investigator can estimate the socioeconomic status.

In this study, the same instrument, the Hollingshead Four Factor Index of Social Status, was used in both countries, but not all of the occupational types in Indonesia were found in the index; thus the rank of occupational status was not really applicable in Indonesia. Therefore, it is very hard to compare socioeconomic status of both cultures because there was not agreement on social status index. Pilot studies and consulting with an expert in the field of cross-cultural social status are suggested for future studies.

Further, information about homework was not available for the Indonesian children because this was not planned at the beginning of the study. The Teacher Questionnaire was made at the suggestion of the United States principals concerning how much homework teachers assign their students. Since the Indonesian data were collected earlier than the United States data, this information was not collected from the Indonesian children. Thus, the United States and Indonesian children were not compared on homework time.

Another limitation of this study is in verification of definition of academic stress across both cultures. Academic stress may be defined as worriness in Indonesia and not as stress as defined in the United States. Verification in definition should be done when planning cross-cultural research.

SUMMARY

The purpose of this study was to investigate the extent of academic stress among children. Fourth, fifth, and sixth grade children from the United States and Indonesia, were compared as to the extend of academic stress in relation to locus of control, self-concept, parental education, socioeconomic status, child's grade, child's sex, and child's school performance.

The children from both countries were given the following three paper and pencil tests in groups during class time.

1. The Academic Stress Scale was used to assess academic stress.
2. Rosenberg's Self-Esteem scale was used to assess self-concept.
3. The Intellectual Achievement Responsibility scale was used to assess locus of control.

In addition, the Student Activity Questionnaire was given to the U.S. children to assess their self-rating on school performance and on homework time. Actual school performance based on student grades was available for Indonesian children. Also teachers of all U.S. children were given a Teacher Questionnaire to assess teachers' ratings on homework time.

Pearson Correlations and a series of analysis of variance using the general linear model were obtained. Major findings showed that both the United States children and the Indonesian children experienced academic stress. However, the extent of academic stress (peer pressure, parental pressure, importance of school, fear of failure, and total score) and the relationship between academic stress and self-concept, and academic stress and school performance, were not the same across both cultural groups. Furthermore, father's education, child's grade and child's sex related significantly to academic stress. However, locus of control, mother's education, and socioeconomic status were not related

significantly with academic stress.

T-tests were done to compare children's ratings and teachers' ratings on homework time. It was found that there was a significant difference between teachers' ratings and children's ratings on how much homework time students spend in an average day. Teachers reported that their students spend less homework time than what their students think they spend.

In addition, the Academic Stress Scale was factor analyzed and two factors accounted for most of the variance in the scale. These factors are different from the original ones proposed by West et al. (1982). Although the present study used West et al.'s (1982) four factors, further study using these two factors is suggested.

REFERENCES

Adam, J. F. (1968). Understanding adolescence: Current developments in adolescent psychology. Boston: Allyn & Bacon.

Chandler, L. A. (1981). The sources of stress inventory. Psychology in the Schools, 18, 164-168.

Coney, Y., & West, C. K. (1979). Academic pressure and the black adolescent. Contemporary Educational Psychology, 4, 318-328.

Connors, P. A. (1983). The school environment: A link to understanding stress. Theory Into Practice, 12, 15-26.

Cooke, R. (1983, May 29). Stress effects of IQ scores on study. The Boston Globe, May 29, p. 12.

Crandall, V. C., Katkovsky, W., & Crandall, V. J. (1965). Children's beliefs in their control of reinforcements in intellectual academic achievement behaviors. Child Development, 36, 91-109.

Elkind, D. (1981). The hurried child: Growing up too fast too soon. Reading, MA: Addison-Wesley.

Findley, M. H., & Cooper, H. M. (1983). Locus of control and academic achievement. Journal of Counseling and Clinical Psychology, 40, 148-151.

Fontana, A., & Dividio, J. J. (1984). The relationship between stressful life events and school-related performances of Type A and Type B adolescents. Journal of Human Stress, 10, 50-55.

Gigliotti, R. J., & Brookover, W. R. (1975). The learning environment: A comparison of high and low achieving elementary schools. Urban Education, 10, 245-261.

Hansford, B. C., & Hattie, J. A. (1982). Relationship between self and achievement/performance measures. Review of Educational Research, 52, 123-142.

Hollingshead, A. B. (1957). The two factor index of social position. New Haven: Privately printed.

Hollingshead, A. B. (1975). Four factor index of social status. Unpublished manuscript. Department of Sociology, Yale University, New Haven.

Ismail, M., and Ng, W. K. (1985). Relationship of locus of control, cognitive style, anxiety, and academic achievement of a group of Malaysian primary school children. Psychological Reports, 57, 1127-1134.

Keeves, J. P. (1972). Educational environment and student achievement. Stockholm Studies in Educational Psychology, 20, 1-309.

Lefcourt, H. M., Miller, R. S., Ware, E. E., & Sherk, D. (1981). Locus of control as a modifier of the relationship between stressors and moods. Journal of Personality and Social Psychology, 41, 357-369.

Maqsud, M. (1983). Relationships of locus of control to self-esteem, academic achievement, and prediction of performance among Nigerian secondary school pupils. British Journal of Educational Psychology, 53, 215-221.

Marsh, H. W. (1984). Relations among dimensions of self-attribution, dimensions of self concept, and academic achievement. Journal Educational Psychology, 76(6), 1291-1308.

Marsh, H. W., Smith, I. D., & Barnes, J. (1984). Multidimensional self-concepts: Relationship with inferred self-concepts and academic achievement. Australian Journal of Psychology, 36(3), 367-386.

Moore, T. (1975). Stress in normal childhood. In L. Levi (Ed.), Society, stress, and disease (Vol 2.). New York: Oxford University Press.

Nowicki, S., Jr., & Strickland, B. R. (1973). A locus of control scale for children. Journal of Consulting and Clinical Psychology, 40, 148-154.

Otis, A. S., & Lennon, R. T. (1979). Otis-Lennon School Ability Test, manual for administering and interpreting. New York: Psychological Corporation.

Parfenoff, S. H., & Jose, P. E. (1979, April). Measuring daily stress in children. Poster presented at the biennial meeting of the Society for Research in Child Development, Kansas City, Missouri.

Patterson, C. H. (1973). Humanistic education. Englewood Cliffs, NJ: Prentice-Hall.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychology Monographs, 80 (1, Whole No. 609).

Sarason, I. G., Johnson, J. H., & Siegel, J. M. (1978). Assessing the impact of life changes: Developmental of the life experiences survey. Journal of Consulting and Clinical Psychology, 46, 932-946.

Scheirer, M. A., & Kraut, R. E. (1979). Increasing educational achievement via self-concept change. Review of Educational Research, 49, 131-150.

Schultz, E. W. (1980). Teaching coping skills for stress and anxiety. Teaching Exceptional Children, 1980, 12-15.

Schultz, E. W., & Heuchert, C. M. (1983). Childhood stress and the school experience. New York: Human Science Press.

Seginer, R. (1982). Learning home environment: A call for distinguishing between parental expectations and parental achievement related behavior. A report submitted to the Ford Foundation, University of Haifa.

Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. Review of Educational Research, 50, 241-271.

Shavelson, R. J., & Bolus, R. (1982). Self concept: The interplay of theory and methods. Journal of Educational Psychology, 73, 3-17.

Silber, E., & Tipett, J. S. (1965). Self esteem: Clinical assessment and measurement validation. Psychological Reports, 16, 1017-1071.

Slavin, R. E. (1980). Cooperative learning. Review of Educational Research, 50 315-342.

Song, I. S., & Hattie, J. (1984). Home environment, self concept, and academic achievement: A causal model approach. Journal of Educational Psychology, 76(6), 1269-1281.

Swearingen, E. M., & Cohen, L. H. (1985). Life events and psychological distress: A prospective study of young adolescents. Developmental Psychology, 21(6), 1045-1054.

Toffler, A. (1970). Future Shock. New York: Random House.

Toffler, A. (1974). Learning for Tomorrow. New York: Vintage.

Walden, T. A., & Ramey, C. T. (1983). Locus of control and academic achievement: Results from a preschool intervention program. Journal of Educational Psychology, 75(3), 347-358.

West, C. K., & Wood, E. S. (1970). Academic pressures on public school students. Educational Leadership, 3, 585-589.

West, C. K., Wills, C. L., & Sharp, A. (1982). Academic stress among early and midadolescents in England and in the United States. Journal of Early Adolescence, 2, 145-150.

Wiekhorst, C. (1973). Relationships between sources of school related pressure and academic achievement. Unpublished doctoral thesis, University of Illinois.

Wylie, R. C. (1974). The self concept: A review of methodological considerations and measuring instruments (Vol. 1). Lincoln, Nebraska: University of Nebraska Press.

ACKNOWLEDGEMENTS

There are many to whom I am grateful for help and support in conducting this research.

I would like to express gratitude to my major professor, Dr. Sedahlia Jasper Crase, for her time, interest, humor and friendship. She has been consistently encouraging and helpful not only in regard to this research, but also in regard to other aspects of my graduate life. Her persistent expectations, support, and friendship are deeply appreciated.

Appreciation is extended also to Dr. Joan Herwig, a member of my committee, for her encouragement and thoughtful suggestions.

My thanks also go to Dr. Robert Strahan who gave his time, interest, and suggestions in regard to statistical procedures for this study.

The help and cooperation of principals, teachers, parents, and children at Nevada Central Elementary School, Nevada Middle School, Gilbert Elementary School, and Indriyasana Palembang, are greatly appreciated. The time and energy they gave were truly helpful.

I would like to acknowledge the College of Family and Consumer Science for its financial assistance.

To the faculty and staff of the Child Development Department for their kindness and support, I also give my thanks.

To my special friends, Laura Kuehn, Kristin Stainer, Linda Brands, Tracy Stavros, Lanny Widyaatmadja, Ismail Chamdani, Petrus Hu, Widijastoro Nugroho, Astuti Hadi, Petrishka Peetosutan and friends at MUDIKA, who gave encouragement, support and friendship, I am truly grateful.

To my mother, father, brothers, and sister-in-law, who share with me the value of education of people, I am forever indebted.

APPENDIX A: ACADEMIC STRESS SCALE

1. SCHOOL ATTITUDES QUESTIONNAIRE

Directions

These questions are about how you may think or feel about school. There are no right or wrong answers, so try to answer in the way you feel about each statement. Your answers should show the degree to which you agree or disagree with each of the statements.

Draw a circle around the number following each question which comes the closest to expressing your own personal feelings. An example would be:

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
	SA	A	U	D	SD
I worry about not doing well in school	(5)	4	3	2	1

Circling the number 5 would mean that you strongly agree with the statement.

		Strongly Agree SA	Agree A	Undecided U	Disagree D	Strongly Disagree SD
1.	I often worry about what my friends are saying about me when I don't do well in school.	5	4	3	2	1
2.	I often find myself worrying after I have taken a test even though I know it is too late to do anything about it then.	5	4	3	2	1
3.	My teachers put a great deal of pressure on me to do well in my classes.	5	4	3	2	1
4.	It would really upset me if I was doing so poorly in a class at school that my teacher had to notify my parents about it.	5	4	3	2	1
5.	I frequently worry about the restrictions my parents will put on me if I don't keep my grades up.	5	4	3	2	1
6.	It disturbs me when my parents are always after me to spend more time at home on school work.	5	4	3	2	1
7.	I study hard in all of my classes because my parents feel it is very important for me to do well in school.	5	4	3	2	1
8.	I feel upset when my classmates find out about a low grade I have received in school.	5	4	3	2	1
9.	It is very frustrating for me when I can't seem to learn the things I'm suppose to for school.	5	4	3	2	1
10.	I often feel guilty when I do not study when I know I should have.	5	4	3	2	1
11.	I often worry about what my parents will say when they see the grades I receive on my report card.	5	4	3	2	1
12.	I hate the thought of having to tell my parents about a test I haven't done well on in school.	5	4	3	2	1
13.	I get upset when my teachers have to talk to me about not spending enough time on my homework.	5	4	3	2	1
14.	One of the most important responsibilities I have is to always do the best I can in my school work.	5	4	3	2	1
15.	I usually worry about what my friends and classmates think of me when the teacher calls on me and I don't know the answer.	5	4	3	2	1
16.	It upsets me when I can't understand the assignments my teacher gives at school.	5	4	3	2	1
17.	I don't have time to participate in many of the things I would like to because my school work is more important and must come first.	5	4	3	2	1

		Strongly Agree SA	Agree A	Undecided U	Disagree D	Strongly Disagree SD
18.	It would bother me if my parents were to ask to see a test that I had done poorly on.	5	4	3	2	1
19.	I would worry about what my parents would do to me if they saw a low grade I received at school.	5	4	3	2	1
20.	It embarrasses me when the kids at school make fun of me because I can't answer a question in class.	5	4	3	2	1
21.	I always try to do my best in school because it means a lot to get the rewards my parents give me for good grades.	5	4	3	2	1
22.	It bothers me when my friends ask me about a test I have done poorly on.	5	4	3	2	1
23.	I find it difficult to study when I am worried about what my teacher will think of my work.	5	4	3	2	1
24.	I feel a great deal of pressure from my parents to get good grades in school.	5	4	3	2	1
25.	It would frustrate me if my parents told me that I should be able to make better grades at school.	5	4	3	2	1
26.	It would upset me if my parents made me study more because I didn't do as well as I should have at school.	5	4	3	2	1
27.	It would upset me if my teacher had to talk to me about a low grade I had received in school.	5	4	3	2	1
28.	It is very important for me to get good grades in all of my school work.	5	4	3	2	1
29.	It bothers me quite a bit when I don't do well in school because I'm afraid that my friends and classmates will think I'm stupid.	5	4	3	2	1
30.	I become upset when I begin to study for an important test at school.	5	4	3	2	1
31.	I often worry about the possibility of not doing well enough in school to get into college.	5	4	3	2	1
32.	I worry about the possibility of disappointing my parents if I don't do well in school.	5	4	3	2	1
33.	I would worry about what my parents would do to me if my teacher had to notify them about my work at school.	5	4	3	2	1
34.	It would disturb me if my teacher said I wasn't trying in class because I didn't do as well as the school thought I should do.	5	4	3	2	1

		Strongly Agree SA	Agree A	Undecided U	Disagree D	Strongly Disagree SD
35.	My school work must always come first because my teachers feel it is important for me to study and learn.	5	4	3	2	1
36.	I am worried that I may leave school without any qualifications.	5	4	3	2	1
37.	I earn excellent grades in most of my school subjects.	5	4	3	2	1
38.	I enjoy school very much.	5	4	3	2	1

APPENDIX B: ROSENBERG'S SELF-ESTEEM SCALE

2. Please indicate the degree to which you agree or disagree with each of the following statements by choosing one of the answers listed below:

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

_____ 1. On the whole, I am satisfied with myself.

_____ 2. At times I think I am no good at all.

_____ 3. I feel that I have a number of good qualities.

_____ 4. I am able to do things as well as most other people.

_____ 5. I feel I do not have much to be proud of.

_____ 6. I certainly feel useless at times.

_____ 7. I feel that I am a person of worth, at least on an equal plane with others.

_____ 8. I wish I could have more respect for myself.

_____ 9. All in all, I am inclined to feel that I am a failure.

_____ 10. I take a positive attitude toward myself.

APPENDIX C: INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE

3. LOC

Instructions: This questionnaire describes a number of common experiences that most of you have in your daily lives. The statements are presented one at a time, and following each there are two possible answers. Read the description of the experience, and choose the one alternative that you agree with the most. Even though you may tend to agree with both alternatives on some items, be sure to choose the one with which you agree more. Please answer every item, giving only one answer for each one. Circle the letter for the answer you choose. Be sure to answer each question according to what you really feel.

1. If a teacher passes you to the next grade, would it probably be
   a. because she liked you, or
   b. because of the work you did?

2. When you do well on a test at school, is it more likely to be
   a. because you studied for it, or
   b. because the test was especially easy?

3. When you have trouble understanding something in school, is it usually
   a. because the teacher didn't explain it clearly, or
   b. because you didn't listen carefully?

4. When you read a story and can't remember much of it, is it usually
   a. because the story wasn't well written, or
   b. because you weren't interested in the story?

5. Suppose your parents say you are doing well in school. Is it likely to happen
   a. because your school work is good, or
   b. because they are in a good mood?

6. Suppose you did better than usual in a subject at school. Would it probably happen
   a. because you tried harder, or
   b. because someone helped you?

7. When you lose at a game of cards or checkers, does it usually happen
   a. because the other player is good at the game, or
   b. because you don't play well?

8. Suppose a person doesn't think you are very bright or clever.
   a. Can you make him change his mind if you try to, or
   b. are there some people who will think you're not very bright no matter what you do?

9. If you solve a puzzle quickly, is it
   a. because it wasn't a very hard puzzle, or
   b. because you worked on it carefully?

10. If a boy or girl tells you that you are dumb, is it more likely that they say that
    a. because they are mad at you, or
    b. because what you did really wasn't very bright?

11. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would happen
    a. because you didn't work hard enough, or
    b. because you needed some help and other people didn't give it to you?

12. When you learn something quickly in school, is it usually
    a. because you paid close attention, or
    b. because the teacher explained it clearly?

13. If a teacher says to you, "Your work is fine," is it
    a. something teachers usually say to encourage pupils, or
    b. because you did a good job?

14. When you find it hard to work arithmetic or math problems at school, is it
    a. because you didn't study well enough before you tried them, or
    b. because the teacher gave problems that were too hard?

15. When you forget something you heard in class, is it
    a. because the teacher didn't explain it very well, or
    b. because you didn't try very hard to remember?

16. Suppose you weren't sure about the answer to a question your teacher asked you, but your answer turned out to be right. Is it likely to happen
    a. because she wasn't as particular as usual, or
    b. because you gave the best asnwer you could think of?

17. When you read a story and remember most of it, is it usually
    a. because you were interested in the story, or
    b. because the story was well written?

18. If your parents tell you you're acting silly and not thinking clearly, is it more likely to be
    a. because of something you did, or
    b. because they happen to be feeling cranky?

19. When you don't do well on a test at school, is it
    a. because the test was especially hard, or
    b. because you didn't study for it?

20. When you win at a game of cards or checkers, does it happen
    a. because you play well, or
    b. because the other person doesn't play well?

21. If people think you're bright or clever, is it
    a. because they happen to like you, or
    b. because you usually act that way?

22. If a teacher says to you, "Try to do better," would it be
    a. because this is something she might say to get pupils to try harder, or
    b. because your work wasn't as good as usual?

23. If a teacher didn't pass you to the next grade, would it probably be
    a. because she "had it in for you," or
    b. because your school work wasn't good enough?

24. Suppose you don't do as well as usual in a subject at school. Would this probably happen
    a. because you weren't as careful as usual, or
    b. because somebody bothered you and kept you from working?

25. If a boy or girl tells you that you are bright, is it usually
    a. because you thought up a good idea, or
    b. becasue they like you?

26. Suppose you became a famous teacher, scientist or doctor. Do you think this would happen
    a. because other people helped you when you needed it, or
    b. because you worked hard?

27. Suppose your parents say you aren't doing well in your school work. Is this likely to happen more
    a. because your work isn't very good, or
    b. because they are feeling cranky?

28. Suppose you are showing a friend how to play a game and he has trouble with it. Would that happen
    a. because he wasn't able to understand how to play, or
    b. because you couldn't explain it well?

29. When you find it easy to work arithmetic or math problems at school, is it usually
    a. because the teacher gave you especially easy problems or
    b. because you studied your book well before you tried them?

30. When you remember something you heard in class, is it usually
    a. because you tried hard to remember, or
    b. because the teacher explained it well?

31. If you can't work a puzzle, is it more likely to happen
    a. because you are not especially good at working puzzles, or
    b. because the instructions weren't written clearly enough?

32. If your parents tell you that you are bright or clever, is it more likely
    a. because they are feeling good, or
    b. because of something you did?

33. Suppose you are explaining how to play a game to a friend and he learns quickly. Would that happen more often
    a. because you explained it well, or
    b. because he was able to understand it?

34. Suppose you're not sure about the answer to a question your teacher asks you and the answer you give turns out to be wrong. Is it likely to happen
    a. because she was more particular than usual, or
    b. because you answered too quickly?

APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE

DEMOGRAPHIC QUESTIONNAIRE

Thank you for participating in our study. Please respond to the following questions.

Child's birth date ____/____/____ (day month year) Sex of child M ___ F ___

Mother's Education: (Please check the highest grade completed)

___ less than 7th grade
___ junior high school (9th grade)
___ partial high school (10th or 11th grade)
___ high school graduate
___ partial college (at least one year) or specialized training
___ standard college or university graduation
___ graduate professional training (graduate degree)

Father's Education: (Please check the highest grade completed)

___ less than 7th grade
___ junior high school (9th grade)
___ partial high school (10th or 11th grade)
___ high school graduate
___ partial college (at least one year) or specialized training
___ standard college or university graduation
___ graduate professional training (graduate degree)

Parent(s) Occupation (list or describe)

Mother _____

Father _____

Thank you.

APPENDIX E: STUDENT ACTIVITY QUESTIONNAIRE

STUDENT QUESTIONNAIRE

1. How do you rank yourself on school achievement?
   In relation to the rest of my class, I am
   Check one:

   Below average _____
   Average _____
   Above average _____

2. On the average, I receive the following grade
   Check one:

A	_____	C+	_____
A-	_____	C	_____
B+	_____	C-	_____
B	_____	D	_____
B-	_____	F	_____

3. How much time do you spend doing homework after school in an average day?
   Check one:

   30 minutes or less _____
   30 minutes to 1 hour _____
   1 - 2 hours _____
   2 - 3 hours _____
   more than 3 hours/day _____

4. How many activities do you have outside of school?
   Check one:

0	____	4	_____
1	____	5	_____
2	____	6	_____
3	____	more than 6	____

   List them.

   _____

   _____

5. How many days per week are you free to do what you really want to do after school?
   Check one:

   1 day _____
   2 days _____
   3 days _____
   4 days _____
   5 days _____

Birthdate : _____
month/ day / year

Grade : _____

APPENDIX F: TEACHER QUESTIONNAIRE

TEACHER QUESTIONNAIRE

1. How many hour(s) of homework, do your students have in an average week.
   Check one :

   1 hour _____
   2 hours _____
   3 hours _____
   4 hours _____
   5 hours _____
   over 5 hours / week _____

2. We are interested in how much of homework was assigned by you as homework vs. work that students did not get finished in class and took home to finish. That is, how much homework do you assign in an average week.
   I assign:
   Check one

   1 hour _____
   2 hours _____
   3 hours _____
   4 hours _____
   5 hours _____
   over 5 hours / week _____

Grade :
Check one

4th grade ___
5th grade ___
6th grade ___

APPENDIX G: LETTERS TO PARENTS AND PARENT CONSENT FORMS

Iowa State University of Science and Technology Ames, Iowa 50011

Child Development Department
101 Child Development Building
Telephone 515-294-3040

May 2, 1989

Dear Parent(s),

I am a graduate student in the Department of Child Development at Iowa State University working on research for my master's thesis. My research is concerned with children's perception of academic stress and how it relates to their perception about themselves and their school achievement.

I have contacted Mr. Ashby and received permission to test in the 4th, 5th, and 6th grades at the Gilbert Elementary School. However, I need your permission in order to test your child at school.

The children will be given three paper and pencil questionnaires related to their perception of academic stress, self concept, and their degree of control over things in their daily school lives. This will take about an hour and will be done in the classroom in the group setting sometime in the middle of May. The teachers and other school personnel will not have access to the children's responses, and all responses will remain confidential. The data will be analyzed for the total group, and individual responses will not be examined or identified. The school and parents will receive feedback about the group data following the data analysis.

I am also asking you, as parents to answer a demographic questionnaire about the age and gender of your child and your education and occupation. This information is completely confidential. If you are willing to have your child tested at school, please fill out the enclosed permission form. Then return both the permission form and the parent demographic questionnaire in the enclosed envelope to your child's teacher by May 8, 1989.

The data for this study will be used only for research purposes. All information will be kept confidential, and no individual names will be used.

We would be happy to answer any questions that you might have concerning this project. We can be reached during the day at (515) 294-3040, 294-6135, or 294-3042 and most evenings at 292-8842.

Your help and cooperation are greatly appreciated.

Sincerely,

Edith Gozali
Graduate Student

Sedahlia Jasper Crase, Ph.D
Major Professor

Iowa State University of Science and Technology Ames, Iowa 50011-1030

College of Family and Consumer Sciences
Child Development Department
101 Child Development Building
Telephone 515-294-3040

April 21, 1989

Dear Parent(s),

I am a graduate student in the Department of Child Development at Iowa State University working on research for my master's thesis. My research is concerned with children's perception of academic stress and how it relates to their perception about themselves and their school achievement.

I have contacted Mr. McIntire and received permission to test in the 4th grades at the Central Elementary School. However, I need your permission in order to test your child at school.

The children will be given three paper and pencil questionnaires related to their perception of academic stress, self concept, and their degree of control over things in their daily school lives. This will take about an hour and will be done in the classroom in the group setting early in May. The teachers and other school personnel will not have access to the children's responses, and all responses will remain confidential. The data will be analyzed for the total group, and individual responses will not be examined or identified. The school and parents will receive feedback about the group data following the data analysis.

I am also asking you, as parents to answer a demographic questionnaire about the age and gender of your child and your education and occupation. This information is completely confidential. If you are willing to have your child tested at school, please fill out the enclosed permission form. Then return both the permission form and the parent demographic questionnaire in the enclosed envelope.

The data for this study will be used only for research purposes. All information will be kept confidential, and no individual names will be used.

We would be happy to answer any questions that you might have concerning this project. We can be reached during the day at (515)294-3040, 294-6135, or 294-3042 and most evenings at 292-8842.

Your help and cooperation are greatly appreciated.

Sincerely,

Edith Gozali
Graduate Student

Sedahlia Jasper Crase

Sedahlia Jasper Crase, Ph.D
Major Professor

Iowa State University of Science and Technology Ames, Iowa 50011

Child Development Department
101 Child Development Building
Telephone 515-294-3040

April 14, 1989

Dear Parent(s),

I am a graduate student in the Department of Child Development at Iowa State University working on research for my master's thesis. My research is concerned with children's perception of academic stress and how it relates to their perception about themselves and their school achievement.

I have contacted Mr. Walker and received permission to test in the 5th and 6th grades at the Middle School. However, I need your permission in order to test your child at school.

The children will be given three paper and pencil questionnaires related to their perception of academic stress, self concept, and their degree of control over things in their daily school lives. This will take about an hour and will be done in the classroom in the group setting early in May. The teachers and other school personnel will not have access to the children's responses, and all responses will remain confidential. The data will be analyzed for the total group, and individual responses will not be examined or identified. The school and parents will receive feedback about the group data following the data analysis.

I am also asking you, as parents to answer a demographic questionnaire about the age and gender of your child and your education and occupation. This information is completely confidential. If you are willing to have your child tested at school, please fill out the enclosed permission form. Then return both the permission form and the parent demographic questionnaire in the enclosed envelope.

The data for this study will be used only for research purposes. All information will be kept confidential, and no individual names will be used.

We would be happy to answer any questions that you might have concerning this project. We can be reached during the day at (515) 294-3040, 294-6135, or 294-3042 and most evenings at 292-8842.

Your help and cooperation are greatly appreciated.

Sincerely,

Edith Gozali
Edith Gozali
Graduate Student

Sedahlia Jasper Crase
Sedahlia Jasper Crase, Ph.D
Major Professor

PERMISSION FORM

I(we) give consent for _____
(name of 5th or 6th grade child)
to participate in the study conducted by Edith Gozali and Sedahlia Crase.

Parent/guardian signature _____

Mailing Address _____

_____

Date _____

Please remember to enclose the Demographic Questionnaire.

Thank you.

APPENDIX H: SUMMARY OF TOTAL FACTOR PATTERN ON ACADEMIC STRESS SCALE: COMPARISON OF PRESENT STUDY AND WEST ET AL.'S (1982) STUDY OF SIXTH GRADERS

SUMMARY OF TOTAL FACTOR PATTERN ON ACADEMIC STRESS SCALE: COMPARISON OF PRESENT STUDY AND WEST ET AL.'S (1982) STUDY OF SIXTH GRADERS

Present Study		West et al.'s (1982) Study	
Variable Number	Loading	Variable Number	Loading
	Factor 1: Peer Pressure		
8	.64	8	.56
15	.64	15	.64
20	.60	20	.74
29	.53	29	.72
9	.50	9	.34
22	.49	22	.70
4	.48		
27	.47	27	.59
34	.47	34	.54
12	.42	12	.40
16	.41	16	.42
2	.40		
33	.36	33	.33
		1	.52
		23	.61
		10	.48
		30	.46
		18	.44
		25	.42
		13	.41
		6	.31

SUMMARY OF TOTAL FACTOR PATTERN ON ACADEMIC STRESS SCALE: COMPARISON OF PRESENT STUDY AND WEST ET AL.'S (1982) STUDY OF SIXTH GRADERS

Present Study		West et al.'s (1982) Study	
Variable Number	Loading	Variable Number	Loading
	Factor 2: Parental Pressure		
36	.63		
19	.58	19	.61
18	.55	18	.49
11	.53	11	.72
24	.51	24	.35
31	.51		
32	.47	32	.41
30	.40		
5	.39	5	.64
1	.33		
23	.31		
		3	.47
		12	.45
		33	.72
		4	.49
		9	.43
		16	.43
		13	.32
		2	.32
		26	.30

SUMMARY OF TOTAL FACTOR PATTERN ON ACADEMIC STRESS SCALE: COMPARISON OF PRESENT STUDY AND WEST ET AL.'S (1982) STUDY OF SIXTH GRADERS

Present Study		West et al.'s (1982) Study	
Variable Number	Loading	Variable Number	Loading
	Factor 3: Importance of School		
35	.66	35	.70
38	.58		
7	.58	7	.40
17	.57	17	.59
14	.48	14	.67
3	.43		
28	.42	28	.68
24	.38		
10	.37	10	.47
37	.31		
21	.58		
32	.31		
26	.30		

SUMMARY OF TOTAL FACTOR PATTERN ON ACADEMIC STRESS SCALE: COMPARISON OF PRESENT STUDY AND WEST ET AL.'S (1982) STUDY OF SIXTH GRADERS

Present Study		West et al.'s (1982) Study	
Variable Number	Loading	Variable Number	Loading
	Factor 4: Fear of Failure		
6	.60	6	.47
26	.52	26	.32
25	.41	25	.46
13	.40		
27	.38		
30	.32		
		24	.66
		31	.51
		3	.44
		5	.42
		21	.41
		9	.33

APPENDIX I: TWO FACTORS OF ACADEMIC STRESS SCALE

TWO FACTORS OF ACADEMIC STRESS SCALE

External Pressure		Internal Pressure	
Variable Number	Loading	Variable Number	Loading
15	.63	35	.65
29	.63	3	.61
20	.59	17	.59
12	.58	24	.57
9	.57	7	.55
8	.56	38	.53
18	.54	10	.38
34	.53	28	.36
22	.53	14	.32
33	.51		
19	.51		
27	.48		
16	.48		
2	.47		
31	.45		
11	.45		
36	.43		
32	.42		
30	.40		
4	.40		