THE RELATIONSHIP AMONG STRESS, SUPPORT, DEPRESSION, AND ACADEMIC PERFORMANCE FOR RURAL ADOLESCENTS

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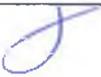
by

Sandra Ann Hartings

University of Dayton

Dayton, Ohio

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APPROVED BY:

_____
Name 1: Morrison, Julie
Thesis Committee Chair

_____
Name 2: Hunley, Sawyer
Thesis Committee Member

_____
Name 3: Hall, Scott
Thesis Committee Member

ABSTRACT

THE RELATIONSHIP AMONG STRESS, SUPPORT, DEPRESSION, AND ACADEMIC PERFORMANCE FOR RURAL ADOLESCENTS

Name: Hartings, Sandra, Ann
University of Dayton

Chair: Dr. J.Q. Morrison

The constructs of stress, support, depression, and academic performance have been mostly addressed on an individual basis. Stress research with children and adolescents has not been as rigorous as research with adults. There are also a number of gaps in the research literature related to support. The decrease in age of the first onset of depressive episodes, along with the high prevalence of depression in adolescence, emphasizes the need to expand research in this area. Also, few studies have attempted to identify interpersonal variables that may serve as antecedents of school achievement. The purpose of this study was to examine the relationships among stress, support, depression, and academic performance. A sample of senior high school students from two school districts in a rural county in northwest Ohio was the participants. Data was obtained from 218 students, who were surveyed using an instrument designed specifically for the study. The relationships between the variables in this model were tested by a statistical methodology called structural equation

modeling (SEM). The five observed variables considered to measure Depression were all considered moderate to very good measures, with the items within the Depressed Affect subscale serving as the most valid measure. The results indicated Academic Efficacy was a much better measure of Academic Performance versus Grades. Family served as the most valid measure of Support. Although weak, there was a significant positive relationship between Stress and Depression. There was a significant negative relationship between Depression and Academic Performance. There was also a significant negative relationship between Depression and Support. The relationship between Depression and Support was stronger than the relationship between Depression and Academic Performance. The relationship between Support and Academic Performance was the weakest of all correlations and was not statistically significant. Thus, it appeared that Support may not have been working as a substantive buffer against Stress. One disconcerting finding within this study was the high percentage (40%) of students citing significant depressive symptomatology, indicating a greater risk for major depressive disorder. The overarching goal of the study was to increase awareness for the need for mental health services in the schools.

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CHAPTER I

INTRODUCTION

The following integrated literature review centers on four constructs important to the field of school psychology.

Stress

The first construct is stress. Numerous definitions of stress have emerged in the literature over the years. A definition that is consistent with the traditional stimulus-based definition of stress will be utilized for the purposes of this study. Such a definition focuses on external, environmental conditions. There has been a recent increased concern regarding the adverse effects of stress during adolescence (Kouzma & Kennedy, 2002). Stress research published over the last fifteen years reflects a field early in its development, with studies in preliminary stages in all areas, including measurement development, epidemiological research, prospective investigations of the etiological significance of stressors, and research on possible mediators and moderators of the association between stressors and psychopathology (Grant et al., 2003). Increasingly large numbers of youth are faced with a variety of stressors. Yet, many questions have yet to be answered regarding the effect of stress on the

lives of adolescents.

One prevailing issue is that the concept of "stress" is difficult to define in operational terms. Most definitions of stress focus on environmental circumstances. However, they differ in the degree to which they emphasize psychological processes that occur in response to the environment. In particular, little research has focused on the cognitive appraisal of stress, which is concerned with the degree events or circumstances are perceived as taxing (Grant et al., 2003). Such moderating processes vary substantially with development and can be problematic for research on children and adolescents. Given such limitations, a definition of stress that focuses on external, environmental changes is preferred in research with youth. Development of an explicit working definition of stressors is an important first step toward fully defining the concept. For the purposes of this study, the following definition of stress was adopted from Grant et al. (2003): "Environmental events or chronic conditions that objectively threaten the physical and/or psychological health or well-being of individuals of a particular age in a particular society" (p. 449).

Support

The second construct is support. Social support refers to support received from various sources within an individual's social network. They include family (e.g., parents and siblings), formal (e.g., teachers and guidance counselors), and informal (e.g., friends and peers) sources. The manner in which adolescents cope with stress plays an important role in the effects of stress on their overall

functioning. There are a significant number of research findings that emphasize the importance of social support as it relates to coping in youth. One challenge is in understanding the type of social support youth receive and want from key individuals in their lives (Markward, McMillan, & Markward, 2003). Also of particular interest is the relationship among students' perceived social support and a wide range of academic, behavioral, and social indicators. According to Bean, Bush, McKenry, and Wilson (2003), previous studies suggest that adolescent outcomes are more strongly related to their perception of support from others rather than to the actual behavior of others. Demaray and Malecki (2002) define social support as "an individual's perceptions of general support or specific supportive behaviors from people in their social network, which enhances their functioning or may buffer them from adverse outcomes" (p. 215). This same definition was utilized for the purposes of this study. A measure of how many students rely on self-support as a coping mechanism was also a focus of this study.

Depression

The third construct is depression, which has been identified as a very prevalent childhood disorder (NIMH, 2000). Integrative perspectives have recognized the significance of three levels of operationalizing depression during adolescence: a) depressed mood; b) anxious-depressed syndrome; and c) depressive disorders (Compas, Hinden, & Gerhardt, 1995). Depression remains one of the most significant mental health problems throughout all stages of life as

reflected in its high prevalence among adults (Compas et al., 1995). Longitudinal data suggest that adolescence is an important developmental period for understanding depression, as many significant changes in depressive problems occur during this life stage (Compas et al., 1995). Adolescence is a time of increasing challenges as a result of biological, social, familial, and academic transitions (Garber, Keiley, & Martin, 2002). The study of the mental health effects of such challenges is important due to the numerous potential debilitating effects on overall functioning. For the purposes of this study, depression was defined as a student's level of depressive symptomatology.

<div align="center">Academic Performance</div>

The fourth construct is academic performance. Academic success increases an individual's capacity to be a contributing member of society. Thus, it is beneficial to identify specific factors that may influence the academic success or failure of adolescents. Academic performance may be defined in numerous ways. Individuals' perceptions of their academic performance in various areas will be the focus of this study. Academic performance was defined by students' attitudes, grades, disciplinary action, attendance, and future academic plans for the purposes of this study.

CHAPTER II

LITERATURE REVIEW

The constructs of stress, support, depression, and academic performance have been, for the most part, addressed on an individual basis. However, many researchers have examined these constructs as a system of issues. There is substantial literature supporting the notion that certain events in a person's life - both positive and negative - give rise to stress and that this stress can be buffered by effective support from family, friends, religious beliefs, helping professionals, and by a positive self-support characteristic (NIMH, 1985). Furthermore, stressful life events are clearly related to depression in children and adolescents. There is support in the literature that high levels of stress often lead to adverse mental health consequences (Kessler, Gillis-Light, Magee, Kendler, & Eaves, 1997). Stress has been shown to predict increases in depressive symptoms (Garber et al., 2002). The accumulation of negative life events also serves as an indicator of subsequent increases in depressed mood and symptoms of depressive syndromes and disorders (Compas et al., 1995). It is reasonable to expect that an individual's perceived level of stress, support, and mental health status would affect their academic performance.

One particular area of interest has been the effect of stress on adolescents in relation to their academic performance. Specific stressors have been examined in the research with regard to academic performance. For example, academic failure has been commonly associated with adolescents who experience divorce or remarriage within their immediate family (Rodgers & Rose, 2001). A combination of stressful life events and their effect on school functioning have also been investigated in the research. It has been found that school dropouts report a lower capacity to cope with stressful life events (Hess & Copeland, 2001). It has also been demonstrated that school experiences themselves are perceived as a major source of stress for a significant number of high school students (Huebner, Ash, & Laughlin, 2001). According to Kaplan, Liu, and Kaplan (2005), research has consistently indicated that the extent to which students find school to be a source of negative experiences is related to their poor academic performance. The results of the Kaplan et al. (2005) study suggest that for students in perceived high stress school environments, an increase in academic expectations may exacerbate their school-related stress and adversely affect their academic performance. It is believed the affective aspects of school learning and behavior have been largely ignored.

A number of relevant research findings have emerged in relation to the impact of adolescent stress, social support, and depression on academic functioning. For instance, repeated negative feedback due to academic difficulties increased risk for depression (Kistner et al., 2003). Youth who were

experiencing problems with schoolwork or difficulties getting along with peers reported more depressive symptoms. It has also been found that frequent experiences of negative life events among youth are likely to be translated into decreased perception of control over their lives, which in turn relates to decreased school satisfaction (Huebner et al., 2001). According to Hess and Copeland (2001), students who drop out of school report significantly more life change events and higher weighted stressor scores. Kouzma and Kennedy (2002) found that the number of hours spent on homework is positively related to scores for stress, depression, anxiety, fatigue, confusion, anger, vigor, and mood disturbance. Stress was also positively correlated with these same outcomes. In the Gillock and Reyes (1999) study, support was provided for the hypothesis that additional stressors associated with disadvantaged circumstances have an adverse effect on academic achievement. Likewise a study by Gonzales, Tein, Sandler, and Friedman (2001), examined separately the effects of stress within the family, peer group, and community, rather than summing life events across social contexts. They found that all three stress dimensions are positively correlated with conduct problems, depression, and grades. Similarly, research conducted by Foersterling and Binser (2002) revealed that depressed students have lower grades than non-depressed students.

Numerous results of the Demaray and Malecki (2002) study are deemed to be of significance. This study documented a significant relationship among perceived social support and many positive indicators for youth, including

academic competence. Strong evidence of a negative relationship between the amount of social support students perceive and the amount of problem behavior in which they are engaging was also found (Demaray & Malecki, 2002). In relation to social support status, the research indicated that an average level of perceived social support is adequate with regard to relationships with other indicators. High levels of perceived social support do not significantly improve scores on academic, behavioral, or social indicators. Females reported more overall perceived social support than males from all sources, except for parents. Younger students reported more overall perceived social support than older students.

A number of other findings related to social support were also considered to be of relevance. Many studies have demonstrated that a student's perception of positive relationships with parents and teachers promotes academic success (Wong, Wiest, & Cusick, 2002). Wentzel (1998) found that family cohesion is a positive predictor of GPA by way of significant relations with students' interest in school. Bean et al. (2003) examined the relationships between adolescent functioning (i.e. self-esteem and academic achievement) and parental support in European American and African American adolescents. They found that maternal support was significantly positively related to academic achievement for African American youth. Findings from the Kenny, Gallaghert, Alvarez-Salvat, and Silsby (2002) study involving inner-city youth suggest that parental attachment may support academic achievement and serve as a protective factor

from depressive symptoms. According to Markward et al. (2003), students report receiving more support from family/friends than from peers or other authority figures. Males report receiving significantly less support than females from family/friends and peers. Students consider parents to be the most important source of support. Many students also identify barriers from establishing genuine and trusting relationships with school personnel, which may affect school performance. In the Gonzales et al. (2001) study, support was negatively related to the frequency of conduct problems and levels of depression.

Research Gaps

Stress research with children and adolescents has not been as rigorous as similar research with adults. Additional research is needed to determine the specific environmental changes, events, and situations that are "objectively threatening" to adolescents (Grant et al., 2003). A stressor classification system is necessary to better understand the role of stressors in the etiology of child and adolescent psychopathology. Without a taxonomy of stressors, researchers must focus on measurement issues by utilizing stressor measures with sound psychometrics and by providing detailed information about these measures used in their research (Grant et al., 2003).

Although there is still much debate as to whether adolescence is an inherently stressful life-stage, there is no question that stress during adolescence is of great importance. In the Kouzma and Kennedy (2002) study, it was difficult to determine if the cause of the students' mood disturbances were the result of

school-related problems or issues linked to the adolescent period. Thus, the results of the Kouzma and Kennedy (2002) study indicate that research should focus on senior high school students and how they handle pressure placed on them academically. In particular, research should examine how the senior year differs from the other high school years, specifically in relation to students' stress and psychological functioning among the different school years. It is also important to examine all sources of stress and not only those associated with school challenges.

There are a number of gaps in the research literature related to social support. For one, there is a need for further research examining differences among students classified with different levels of support. According to Demaray and Malecki (2002), follow-up research is needed to examine the relative importance of the source of support (parent, teacher, classmate, and close friend) to determine how perceptions of support status (low, average, high) from each of these sources might affect outcomes differently. Also, little documentation exists in relation to the types of support youth want and receive from various sources in their lives (Markward et al., 2003). The Markward et al. (2003) study involved a limited study sample that contained students from several ethnic minority groups. This study sought to extend the research by conducting research in educational settings where Caucasian students are in the majority and by focusing on how perceived social support functions for males versus females.

The high prevalence of depression in adolescence, coupled with the decrease in age of the first onset of depressive episodes, underscores the need to expand research in this area (Kistner, David, & White, 2003). There is a need for integrative research in recognition of the high degree of comorbidity of depressive symptoms and depressive disorders with other symptoms and disorders during adolescence (Compas et al., 1995). The research described within this study is integrative in that it addresses not only depression, but other constructs as well. Understanding the relationships between these constructs and how they affect adolescent outcomes is important in the development of interventions.

School reform efforts have focused mainly on outcomes related to cognitive development and academic achievement (Huebner et al., 2001). Few studies have attempted to identify correlates, especially interpersonal variables that may serve as antecedents of school achievement. Traditionally, research has focused on inalterable demographic variables that put students at-risk for school failure (Hess & Copeland, 2001). This study examined the broad effects of stress and coping on school success.

CHAPTER III

METHODS

The purpose of this study was to examine the relationships among four variables: stress, support, depression, and academic performance. Three research questions were addressed in this study:

1. What is the relationship between perceived stress and academic performance?

2. What are the moderating effects, if any, of support on the relationship between adolescent stress and academic performance?

3. What is the relationship between stress, level of depression and academic performance?

The study also examined gender differences and variability among senior high classes in order to address the gaps in research identified above.

Setting and Participants

A sample of senior high school students from two school districts in a rural county in northwest Ohio was the participants in this study. As intended, the population of the school districts chosen to participate was 98.8% and 99.5% White. This population was chosen in order to address the lack of research

needed in the area of social support that involves a majority of White participants. According to Markward et al. (2003), research is needed in the area of social support that involves a majority of White participants. Every student from grades 9 - 12 was recruited to participate in the study. Data was obtained from a survey 218 students. The demographic characteristics of the students in the sample are represented in Table 1. The number of female participants was higher than the number of male participants. There was a fairly equal representation from each of the grade levels, with the age of participants ranging from 14 to 19. Other demographics of the chosen school districts include average daily student enrollment (968 and 1,128), attendance rate (95.9% and 97.4%), graduation rate (93.2% and 100%), percentage of economically disadvantaged students (19.9% and 2.3%), and percentage of students with an identified disability (16.1% and 10.7%).

Table 1
Demographic Characteristics of Sample Participants (N = 218)

	Students	
Characteristic	*N*	%
Ethnicity		
White	210	96.8
Hispanic	1	.5
Native American	2	.9
Other	4	1.9
Gender		
Male	83	38.1
Female	135	61.9
Grade		
Nine	43	19.7
Ten	54	24.8
Eleven	63	28.9
Twelve	58	26.6
Age		
14	9	4.1
15	42	19.4
16	59	27.2
17	53	24.4
18	51	23.5
19	3	1.4

Research Design

The relationships between the variables in this model were tested by a

statistical methodology called structural equation modeling (SEM), which has

emerged as a useful and powerful data analytic tool. It enables a researcher to

examine and describe patterns of relationships and to test hypotheses that

traditional statistical methods have not been able to do. Further, SEM is primarily

a confirmatory vs. exploratory approach to data analysis. It requires a researcher

to be clear about theoretical models and measurement prior to the research

process and to structure the analysis of generated data in that specified

theoretical context (Kline, 2005).

Procedures

Consent was sought from the parents or guardians of all students recruited for the study. A consent form was developed to meet this need (Appendix A). This form advised about the study and required the signature of a parent. It then had to be returned to school before a student could participate in the study.

Students were surveyed using an instrument designed specifically for the study (Appendix B). Questionnaires were administered in the classroom during the school day. There were five sections in the questionnaire that measured the main constructs in the study, along with demographic information.

Serious consideration was given to the student survey process to minimize intrusiveness and potential discomfort. Confidentiality was insured as no individually identifying information was gathered and responses remained anonymous. Participation in the study was strictly voluntary. Students were informed that they could opt out of the study either before or during administration of the survey without penalty.

Instruments

Stress

Students were asked to indicate if they had experienced any of twenty-eight life events that have been identified as having a potential impact on the

lives of youth. They were directed to check the "yes" box if they had experienced the event in the past six months. The life events used in the questionnaire were adopted from Coddington (1972) and from life event studies focusing on youth (Sandler & Ramsay, 1980; Wheaton, Roszell, & Hall, 1997). Students also had the opportunity to write in additional stressful life events they may have experienced that were not included in the list. Items within the Wheaton et al. (1997) study have been reported with acceptable to very good levels of test-retest reliability. Due to the nature of life event surveys, measures of test-retest reliability are often not found in the literature. Internal consistency reliability coefficients were not calculated, as items on such surveys are considered to be independent of one another.

Support

Students were asked to rate the support they receive from various sources on a forced-choice scale. The five questions in this section have been used as part of the Ohio Department of Mental Health stress/support analysis program as a measure of perceived support. The social support items are also considered to be independent and therefore, tests of internal consistency reliability would not be appropriate. The test-retest reliability and validity of survey items have not been determined empirically.

Depression

Students were asked to respond to the Center for Epidemiologic Studies – Depression (CES-D) depression scale. It is a 20-item ordinal type scale that

required a response ranging from "rarely or none of the time" to "most or all of the time", in reference to the past week. The CES-D is an established scale that has been used in a wide range of epidemiologic studies of both adults and youth. It was designed to be a short self-report instrument useful for measuring depressive symptomatology in the general population (Radloff, 1991). The CES-D has well-established psychometric properties and has been recommended for use in high school populations (NIMH, 2000). Internal consistency measures of reliability have been reported as high for a variety of sample populations, specifically at .86 for the high school population (Radloff, 1991). Test-retest reliability has been reported as moderate (.40 or above) for the adult general population (Radloff, 1977). Validity has been established by patterns of correlations with other self-report measures of depression, with clinical ratings of depression, by discrimination of clinical from nonclinical groups, and by relationships with other variables that support its construct validity (Radloff, 1991). Definitive information on the validity of the CES-D is lacking at the high school level, due to the lack of clinical validation studies with this age group. It is important to note that the CES-D was designed as a measure for epidemiologic research, not for the purpose of clinical diagnosis (Radloff, 1991).

<center>Academic Performance</center>

Students were asked to rate their performance at school and their attitude related to academics on an ordinal scale. For each of the ten items, students were required to check the box that best corresponded to their level of

agreement with the statement. This researcher developed this portion of the questionnaire specifically for this study. In a separate section of the questionnaire, students were asked to respond to other questions related to academic performance, including what grades they get on average and how far they expect to go with their education. Previous research has found that adolescents' self-reported grades correlate highly with their actual grades (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987).

Demographics

Students were asked to identify their ethnicity, gender, age, and grade level in school.

Data Analysis

A variety of data analysis procedures were utilized to examine each individual variable and the relationships between variables.

Stress

The analysis of life events followed recommendations made by Shrout (1984). Specifically, unweighted counts of life events were utilized for analysis. A higher number of stressful life events would indicate a higher level of stress. There has been no conclusive evidence that weighted life-event indices are superior to unweighted indices. In fact, weighted and unweighted indices have been found to be highly correlated with one another. Descriptive statistics were used to summarize the data for each event.

Support

The five items that form the support scale were examined through two steps. First, response frequencies provided evidence about to whom high school students turn to for support in their lives. Next, a support scale score was obtained by summing responses across the five support items. A higher support scale score would indicate higher levels of perceived support.

Depression

The CES-D data analysis was based on the recommendations of Radloff (1991). Scoring the CES-D involved reversing the scales of a number of individual items and then summing the items to create a depression index.

Academic Performance

An academic performance scale score was obtained by summing responses across the ten academic performance items.

Demographics

Frequency counts were computed for the demographic items.

CHAPTER IV

RESULTS

Data on the descriptive statistics for the four measured constructs is provided first. The results of this study are then presented in response to the research questions that guided the study through the use of structural equation modeling (SEM).

Descriptive Statistics

Stress

At least one student experienced each of the life events used in the questionnaire. Many selected life events involved the death, illness, or injury of a significant other. The top three most frequently experienced life events were "A close friend about your age had sex for the first time", "A close friend about your age got pregnant", and "Another family member was seriously ill or injured". The least frequently experienced life events were "One of your brothers or sisters died" and "Your mother or father got in trouble with the law" with only one participant responding positively. "You changed schools" and "One of your parents died" were the third least responded to life events with only three participants responding positively. Table 2 represents the life events that were

experienced with the greatest frequency (i.e. a minimum of 10%).

Table 2
Participants' Most Frequent Life Event Experiences

Life Event	N	%
A close friend about your age had sex for the first time	70	32.1
A close friend about your age got pregnant	61	28.0
Another family member was seriously ill or injured	51	23.4
A friend you were close to died	44	20.2
A family member you were close to died	41	18.8
Someone else you were close to died	37	17.0
One of your siblings moved out of the house	35	16.1
A pet you were close to died	29	13.3
A friend was seriously ill or injured	25	11.5
Your parents argued more with each other	23	10.6

The analysis of the life events portion of the questionnaire followed the

recommendations of Shrout (1984). Specifically, unweighted counts of life

events were utilized for analysis, as there has been no conclusive evidence that

weighted life-event indices are superior to unweighted indices. In fact, weighted

and unweighted indices have been found to be highly correlated with one

another. Table 3 provides some descriptive statistics related to the total number

of life events.

Table 3
Minimum, Maximum, Mean, and Standard Deviation

	N	Minimum	Maximum	Mean	SD
Total Life Events	218	0	14	2.62	2.56

Depression

There are various methods for scoring the CES-D Scale. Along with an

overall depression score, four subscales have been identified for use in

psychometric analyses of the CES-D Scale: (a) Depressed Affect, (b) Happy, (c)

Somatic and Retardation, and (d) Interpersonal (Radloff, 1991). Each subscale

score is the sum of the weights for the items in the subscale. Table 4 represents

the mean, standard deviation, range, and reliability coefficient (coefficient alpha)

for each of the subscales, as well as the overall depression score. All subscales

met the minimum recommended internal consistency coefficient of .70 or greater

(Nunnally, 1978), except for "Somatic". However, this subscale was very close to

this recommendation with a coefficient alpha of .68.

Table 4

CES-D Descriptive Statistics by Subscale and Overall Depression Score

Subscale	Mean	SD	Range	Reliability
Depressed Affect	3.37	3.51	0-15	.88
Happy	3.39	2.61	0-11	.77
Somatic	5.46	3.21	0-16	.68
Interpersonal	1.26	1.49	0-6	.75
Overall Depression Score	15.30	10.19	0-50	.75

A higher overall depression score indicates greater frequency and number

of symptoms of depression. Those who have used the CES-D have

recommended a variety of cutoffs. A score of 16 has typically been used for

reporting the percent of respondents at and above cutoff (Radloff, 1991). Table 5

represents the number and percentage of study participants who are considered

at-risk of major depressive disorder, based on their overall score of 16 or higher.

The findings show that almost 40% of the students had significant depressive

symptomatology, indicating they are at a greater risk for major depressive

disorder.

Table 5
Number and Percent of Students with Overall Depression Score of 16 or Higher

Risk Level	N	%
Not At-Risk	132	60.6
At-Risk	86	39.4

Social Support

Participants were asked to rate how much support they receive from various sources in their lives. Based on a summation of the "moderate" and "most or all of the time" responses, students reported receiving the most external support from friends and family members. This is consistent with previous research findings. This was followed by the external support sources of personal religious faith and professional resources, respectively. Participants rated internal self-support as the highest amount of support of all the sources. Professional support was by far the least frequently cited source of support, which has implications for professionals in the field of education. Table 6 outlines the social support data in more detail.

Table 6
Participant Ratings of Sources of Support

Source		Rarely or None of the time	Some or a little	Moderate amount	Most or all of the time
Friends	N	9	28	81	100
	%	4.1	12.8	37.2	45.9
Family	N	13	38	53	114
	%	6.0	17.4	24.3	52.3
Religion	N	23	49	76	70
	%	10.6	22.5	34.9	32.1
Professional	N	123	47	38	10
	%	56.4	21.6	17.4	4.6
Self-Support	N	3	26	98	91
	%	1.4	11.9	45.0	41.7

Academic Performance

Students were asked to rate their level of agreement related to their performance at school and their attitude toward academics by responding to ten statements. Table 7 represents the number and percentage of participants and their level of agreement with each of the items. A large majority of the participants either "strongly agreed" or "agreed" with the statements, indicating positive academic performance in various areas.

Table 7
Descriptive Statistics Related to Academic Performance

Statement		Strongly Agree	Agree	Can't decide	Disagree	Strongly Disagree
Positive	N	39	109	42	23	5
attitude	%	17.9	50.0	19.3	10.6	2.3
I work hard	N	53	121	26	16	2
in school	%	24.3	55.5	11.9	7.3	.9
Performing	N	42	100	29	43	3
to best ability	%	19.4	46.1	13.4	19.8	1.4
Plans to	N	158	34	15	3	5
further ed.	%	73.5	15.8	7.0	1.4	2.3
Confident	N	71	107	25	13	1
in abilities	%	32.7	49.3	11.5	6.0	.5
H.S. prep.	N	63	117	21	14	1
for adulthood	%	29.2	54.2	9.7	6.5	.5
Enjoyed sch.	N	68	106	31	9	3
experience	%	31.3	48.8	14.3	4.1	1.4
Good	N	111	95	6	4	2
attendance	%	50.9	43.6	2.8	1.8	.9
Passed	N	94	32	56	4	6
OGT	%	49.0	16.7	29.2	2.1	3.1
No	N	112	52	22	25	7
discipline	%	51.4	23.9	10.1	11.5	3.2

A factor analysis of the academic performance items revealed that "I feel like I have a positive attitude toward school", "I work hard in school", "I feel like I am performing to the best of my ability in school", and "I am confident in my abilities in school" measured something related to the construct of self-efficacy.

The term "academic efficacy" is used in this study to refer to a summation of the four above items.

Structural Equation Modeling Results

The discussion in this section follows suggestions and recommendations for reporting SEM results made by Boosma (2000), MacDonald and Ho (2002), and Kline (2005). SEM analyses tend to be more complicated than standard statistical presentations and agreement about some SEM summary measures is still controversial (Boosma, 2000). Results presented in this section reflect current 'best practices' in SEM reporting methods.

The Tested Model

SEM models are best represented in a path diagram format. The primary model tested in this study is shown in Figure 1.1. A few comments about SEM model components and representation are necessary before discussing model details. First, the measures used in the study are represented in either circles (ovals) or squares (rectangles). The measures shown in the rectangles in Figure 1.1 are the measured variables (MVs) for which data were actually collected in the study. Each MV was constructed from survey items. The measures shown in circles and ovals are latent variables (LVs) or hypothetical constructs that are functions of MVs. For example, the LV Depression is a function of the MVs of Depressed Affect, Happiness, Somatic, Interpersonal, and Perceived Self-Support. Similarly, the LV Support is a function of the MVs Family, Friends,

Professionals, and Religion.

The arrows shown in the Figure 1.1 path diagram represent hypothesized relationships between measures. For example, the single-headed arrows leading from Depression to each measured variable are interpreted to mean that Depression gives rise to these measures. Similar interpretations apply for LVs Support and Academic Performance and their respective MVs. The arrows that link Stress, Depression, Support, and Academic Performance imply a set of causal pathways.   For example, the arrow between Depression and Stress indicates that Depression is a function of Stress. Further, the arrow pattern between Depression, Support, and Academic Performance can be interpreted to mean that Academic Performance is a direct function of Depression and also has an indirect or moderating relationship with Depression through Support.
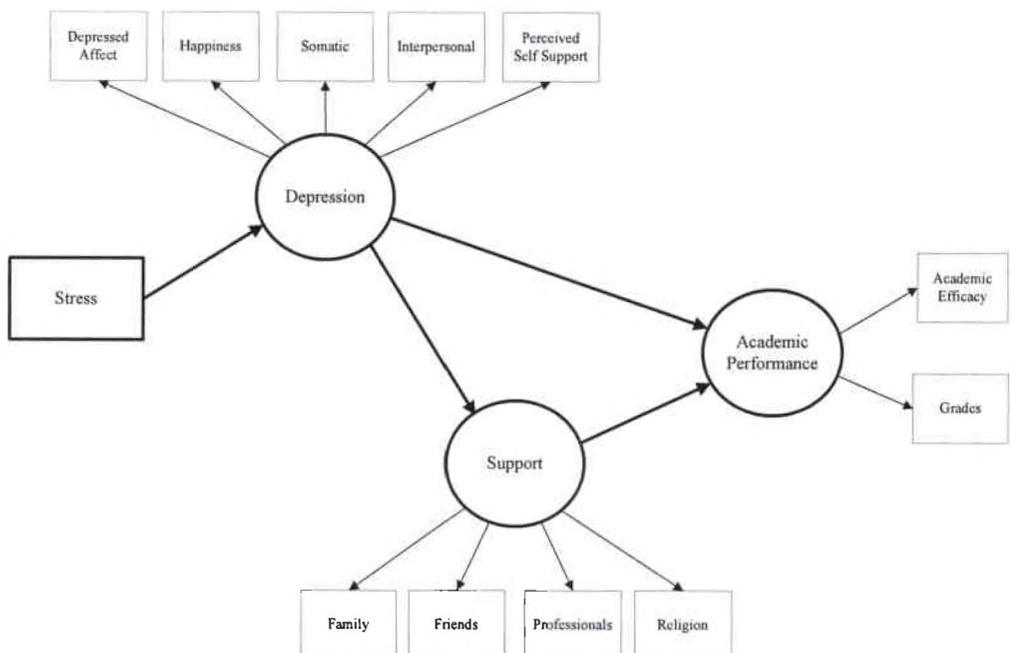
Figure 1.1 – SEM Tested Model

Further, there are two basic components of most structural equation models – a measurement component and a structural component. The measurement model component defines relationships between the MVs and their corresponding LVs. The measurement component aids in answering the question as to whether the MVs are valid and reliable indicators of the LVs. The structural model component defines structural relations among both measured and latent variables. It specifies the manner by which particular measures directly or indirectly change the values of other measures in the model.

Finally, it is important to understand the two types of variables in SEM. An exogenous variable does not have an arrow coming into it. Exogenous variables are synonymous with independent variables and considered to be influenced by factors outside the model. In Figure 1.1 the measured variable Stress is an exogenous variable. Endogenous variables are synonymous with dependent variables and are influenced by the exogenous variables included within the model. An endogenous variable has at least one arrow coming into it. In Figure 1.1, Depression, Support, and Academic Performance are endogenous variables.

SEM results are reported in logical sequence composed of the following components: sample size, method of estimation, evaluation of overall model fit, and interpretation of parameter estimates (Kline, 2005; Boosma, 2000).

Sample Size

Two hundred eighteen cases (student responses) were available for use in this study. Kline (2005) notes that an SEM study generally needs at least 200 cases to be considered a large sample study. Of course, sample size is directly related to study power with larger samples needed for increased power.

Estimation

A number of estimation methods are available for use in SEM data analysis. The most popular of these is maximum likelihood estimation, which was used in this study. Briefly, maximum likelihood estimation is an iterative procedure, which computes parameter estimates that minimize a fitting function. The final parameter estimates are optimal from the standpoint that no other estimates will yield a smaller fit solution. A key assumption of maximum likelihood is that data are distributed as multivariate normal. Data in this study depart from this assumption - a test of multivariate normality suggests that study data are not multivariate normal. Current thinking suggests that maximum likelihood is somewhat robust to violation on multivariate normal assumptions. The model was tested using both Lisrel 8.80 and AMOS statistical programs.

Evaluation of Overall Model Fit

Overall model fit addresses the question of how well the SEM model implied by the path diagram actually fits study data. A small set of fit indexes has emerged as helpful in understanding and interpreting fit.

- Root Mean Square Error of Approximation (RMSEA) – this index is a simple, straightforward measure of model fit. The RMSEA value of the Model tested is .080 with a 90 percent confidence interval of .061 - .097. Kline (2005) provides the following cutoffs for interpretation: an RMSEA of < .050 indicates a close model fit, an RMSEA of .051 to .080 indicates a reasonable model fit, an RMSEA of .081 to .100 indicates a mediocre fit, and an RMSEA > .101 suggests a poor fit. Based on these cut-offs the model fit in this study is reasonable.

- A second popular fit index is the Comparative Fit Index (CFI). The CFI is based on different assumptions than the RMSEA and has a different scale (ranges from 0 to 100 with higher scores indicating higher fit). A score above .90 is considered a reasonable fit. The CFI for the model tested in this study is .93 again suggesting a reasonable fit.

Evaluation of Model Parameter Estimates

After concluding that the overall model is plausible, it is appropriate to examine and interpret various model parameter estimates. These parameter estimates are shown in Figure 1.2. A few clarifying comments about these parameters are necessary. First, the values attached to the measurement component of the model are indicators of reliability and validity. For example, values that are attached to the arrows that link MVs to their respective LVs indicate how valid a MV is as an indicator of that particular LV (Joreskog &

Sorbom, 1993). These values actually correspond to factor loadings in the factor analysis sense. The values shown in Figure 1.2 are all standardized so that the range of each is between 0.0 and 1.0 with higher scores indicating higher validity.

The five observed variables considered to measure Depression were all considered moderate to very good measures, with the items within the Depressed Affect subscale serving as the most valid measure at .85. This was followed closely by the Somatic (.78) and Happy (.71) subscales. Upon reviewing Academic Performance, the results indicated Academic Efficacy (.95) was a much better measure of Academic Performance versus Grades (.48). The measurement model results related to the latent variable Support showed that Family (.77) served as the most valid measure of Support. Religion (.48) and Friends (.41) ranked similarly as measures of Support, while Professionals (.31) was the poorest measure of Support. All validity coefficients were statistically significant.

The R^2 values shown in each MV rectangle is a measure of reliability. The possible range of these values is also 0.0 to 1.0 with higher values meaning higher reliability. Depressed Affect explained the amount of variance in the measure of Depression the most, followed by Somatic and Happy, respectively (.72, .61, and .50). The Interpersonal subscale and Self-Support item were poor indicators of the amount of variance explained by Depression. The R^2 value associated with Academic Efficacy (.90) indicated that this served as a very reliable indicator of the amount of variance explained by Academic Performance

compared to Grades (.23). Though moderate, Family was also a much more reliable indicator with an R^2 value of .59 when determining the amount of variance explained by Support. This was followed by Religion (.23), Friends (.16), and Professionals (.10), respectively. All reliability coefficients were statistically significant.

Finally, for each MV there is an arrow coming in that represents the extent to which there is measurement error or the extent to which other variables may be influencing it. This value is actually 1- R^2 and high values indicate that the measure is not working that well as a measure of a particular LV. In relation to Depression, the Depressed Affect subscale was the most effective measure with a 1-R^2 value of .27. This was followed by Somatic at .39 and Happiness at .50. The Interpersonal and Self-Support subscales were the least effective measures with 1-R^2 values of .68 and .66, respectively. A review of the 1-R^2 values associated with Academic Performance indicated that Academic Efficacy was a very good measure at .10 versus Grades at .77. Lastly, most all the MVs related to Support were poor measures, with Family serving as the best measure with a 1-R^2 value of .41. The other MV 1-R^2 values associated with Support were Religion at .77, Friends at .84, and Professionals at .90.
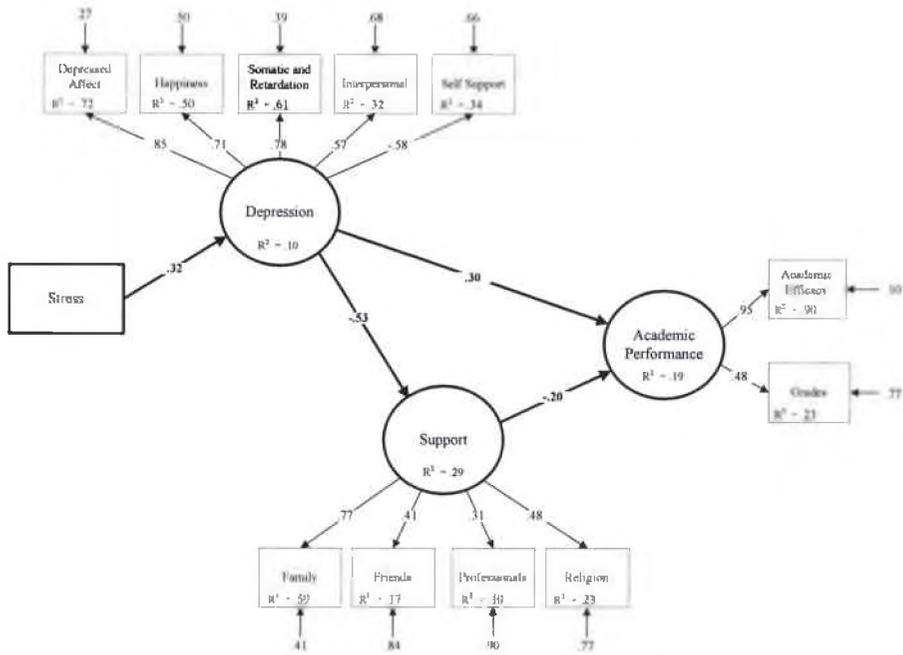
Figure 1.2 – SEM Model Standardized Parameter Estimates

The values that represent the magnitude and direction of relationships in the structural component of the model are partial regression coefficients. Because they are standardized, their values range from 0.0 to 1.0 with high values indicating stronger relationships. The sign for each is interpreted in the standard way; thus, a positive sign indicates that higher scores in the one variable go with higher scores in the other variable. A negative sign indicates that higher scores in the one variable go with lower scores in the other variable. Also, there is an R^2 value for each endogenous variable in the structural component of the model that can be interpreted as the amount of variance explained by the variables coming into it. For example, the R^2 value of .10 for Depression indicates that 10 percent of the variance of Depression is explained by Stress. The value of .32 attached to the path between Stress and Depression

is the partial regression coefficient that shows the positive relationship between Stress and Depression (where high Stress scores correspond to high Depression scores).

Analysis of the numerical values associated with the structural model indicated that the one exogenous latent variable of Stress had a somewhat weak relationship to Depression with a regression coefficient of .32. The relationship between Depression and Support (-.53) was stronger than the relationship between Depression and Academic Performance (.30). The relationship between Support and Academic Performance was the weakest of all correlations with a regression coefficient of -.20. Upon examining the R^2 values within the structural model, it was evident that all the endogenous latent variables were poor indicators of the amount of variance explained by the predictors. Support had the highest R^2 value of .29, followed by Academic Performance (.19) and Depression (.10). All partial regression coefficients are statistically significant except for the Support-Academic Performance coefficient.

Research Questions in the SEM Context

The research questions posed in this study were addressed in the tested SEM model. There were three research questions addressed in this study:

1. What is the relationship between perceived stress and academic performance?

2. What are the moderating effects, if any, of support on the relationship between adolescent stress and academic performance?

3. What is the overall relationship between stress, level of depression, support, and academic performance?

The first question about the relationship between perceived stress and academic performance was not addressed directly in the SEM model context. Rather, the relationship between the two was hypothesized to have an indirect path through Depression. In the model, Stress had a significant relationship with Depression as indicated by the .32 path coefficient. It accounts for a modest amount of explained variance in Depression (10 percent). The path coefficient of .30 between Depression and Academic Performance was also significant suggesting a non-trivial relationship between the two. Thus, the data and model suggest there was a relationship between Stress and Academic Performance.

The moderating effects of Support on the relationship between Stress and Academic performance were less clear. In the tested model, Support was hypothesized to help buffer Stress (as manifested by Depression) over and above the direct relationship between Depression and Academic Performance. In that buffering path, there was a statistically significant relationship (as indicated by the -.53 path coefficient) between Depression and Support. However, the path coefficient of -.20 between Support and Academic

Performance was not significant. Thus, it appeared that Support may not have been working as a substantive buffer against Stress.

Finally, question three was actually a summary of the above findings. There appeared to be clear relationships between Stress, Depression, and Academic Performance as indicated by the significant path coefficients and R^2 values. The fit of Support in the model was less clear because of the non-significant relationship between Support and Academic Performance.

CHAPTER V

DISCUSSION

There were several findings within this study worthy of discussion. Although weak, there was a significant positive relationship between Stress and Depression. There have been numerous studies that have established a clear link between these two constructs in adolescents. There is support in the literature that high levels of stress often lead to adverse mental health consequences (Kessler et al., 1997), including depression (Garber et al., 2002). There was also a significant negative relationship between Depression and Academic Performance, which has been supported in the research as well.

The Kaplan et al. (2005) research indicated that students' attitude toward school was related to their academic performance. The results of this study supported this finding in that a majority of the respondents indicated positive attitudes toward school, as well as positive academic performance in many areas. However, one must always take into consideration the reliability of student responses in studies such as these.

A significant relationship was found between Depression and Support, with those citing higher levels of Support having lower levels of Depression. However, there was not a significant relationship between Support and

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Academic Performance. This suggests that Support is not working as a good defense against Stress. This goes against the considerable amount of literature supporting the notion that stressful life events can be buffered by effective support sources (NIMH, 1985). However, Demaray and Malecki (2002) found that high levels of perceived social support did not significantly improve scores on academic indicators. An average level of perceived social support was found as adequate. The findings from this study were more consistent with these findings.

There were a number of limitations in this study that warrant discussion. One limitation was the sample size of 218 respondents. Although this sample size was sufficient to conduct various analyses of the data, it was too small to perform all data analyses of interest. For instance, an analysis of how senior students differ from other high school students was not possible due to low study power. Other analyses not conducted as a result of this issue were determining how perceptions of support status (low, average, high) from each source affected outcomes and how support functioned for males versus females.

Another limitation of the study related to the sample was its representation of the broader student population. It is believed this may have been reduced due to the students having to obtain parental consent for participation. It was the responsibility of the student to take the necessary form home for signature and return it to school. Thus, it was likely that a majority of the involved students were the more responsible type, which could have affected the results of the

study. It is believed this may have been reflected in the results of the responses to the Academic Performance items. A large majority of the students indicated positive academic performance in many of the areas.

One other limitation may have been the stress measure utilized in the study. There were numerous life events (19 out of the 30) that were experienced by less than 10% of the sample. The average number of experienced life events was 2.62. Therefore, it is believed the stress measure may not have been appropriate for an adolescent population. More research needs to be conducted in this area, particularly in relation to determining life events that adolescents find stressful. It may also be more meaningful to look at daily hassles, rather than major life events.

The overarching goal of the study was to increase awareness for the need for mental health services in the schools. Although this has become increasingly apparent in recent years, many educational settings have continued to fail to address the mental health needs of youth. This was reflected in the results of this study in relation to the construct of Support. Professional sources were rated as providing the least amount of support among all the other sources of support. However, it should be noted that professional *school* support sources (e.g. guidance counselor, school psychologist) were not specifically cited as examples of support persons on the survey. Thus, it is possible that participants did not consider these sources when answering the Support items.

Statistics related to a variety of stressors such as poverty, family disintegration, violence and substance abuse are overwhelming indicators related to the lack of supportive families and economic resources needed for school success (Thomas & Grimes, 2002). These barriers to learning are a growing concern to society. One disconcerting finding within this study was the high percentage (40%) of students citing significant depressive symptomatology, indicating a greater risk for major depressive disorder. This is especially high when considering the sample size. Offering mental health services in school settings has numerous advantages, with accessibility being one of the most beneficial ones. School psychologists can serve as a resource to the school community in the development of mental health services to meet the needs of students and their families.

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Informed Consent to Participate as a Research Subject

Project Title: The Relationship Among Stress, Support, Depression, and Academic Performance for Rural Adolescents

Investigator: Sandra A. Hartings, University of Dayton School Psychology Graduate Student

Purpose of Research: This research is investigating the relationships among stress, support, depression, and academic performance. Three research questions that will be addressed in this study: (a) What is the relationship between perceived stress and academic performance? (b) What are the moderating effects, if any, of support on the relationship between adolescent stress and academic performance? and (c) What is the relationship between stress, level of depression and academic performance?

Expected Duration of Study: This research should take less than one-half hour for your child to complete.

Procedure: Students will be surveyed using an instrument designed specifically for the study. Questionnaires will be administered in the classroom as arranged with school personnel. There are five sections in the questionnaire that measure the main constructs in the study (i.e. stress, support, depression, and academic performance), along with demographic information. A copy of the questionnaire is available in the high school office for your review.

Alternative Procedures: No alternative procedures exist in this research project.

Anticipated Risks and / or Discomfort: There are no anticipated risks to the physical and mental health, comfort, and privacy of the participants in this study. Participation in the study will be strictly voluntary. A student may opt out of the study either before or during administration of the survey without penalty. Most of the questions are minimally invasive and therefore, it is anticipated that answering each question should result in little to no discomfort. It will be made clear to students that they do not have to answer individual questions if they elect

not to do so. In the unlikely event a student experiences strong emotional reactions, a handout listing available support services will made available immediately following completion of the survey.

Benefits to the Participant: Participating in this research may help increase awareness for the need for mental health services in the schools. Although this has become increasingly apparent in recent years, many educational settings continue to fail to address the mental health needs of youth. Statistics related to stressors as barriers to learning are a growing concern to society. After all data are collected, participants will have the opportunity to obtain information about the nature of the study.

Confidentiality: No identifying information will be collected and therefore, responses will remain anonymous. There will be no confidentiality issues, as no effort will be made to track or subsequently identify students. Your child's data will be pooled with data from other research participants and only summary results will be made public. Your child's name will not be revealed in any document resulting from this research. Your child's data will be recorded anonymously. Only a randomly assigned identification number will be recorded with your child's data.

Contact Person for Questions or Problems: If you have questions about the research, you may contact Sandra A. Hartings at 419-586-6628 or Greg Puthoff, Principal, at 419-363-2894.

Consent to Participate: I have voluntarily decided to allow my child's participation in this research project. The investigator named above has adequately answered all questions that I have about this research, the procedures involved, and my child's participation. I understand that the investigator named above, or the named school personnel, will be available to answer any questions about experimental procedures throughout this research. I also understand that I may refuse my child's participation or voluntarily terminate his/her participation in this research at any time without penalty or loss of benefits to which he/she is entitled. The investigator may also terminate my child's participation in this research if he feels this to be in his/her best interest. In addition, I certify that I am 18 (eighteen) years of age or older.

_____   _____
Signature of Parent/ Guardian   Date

_____
Name of Student

_____
Signature of Investigator

High School Survey

This brief survey is a part of a research project designed to understand the kinds of stress high school students are experiencing these days and how that stress affects the school experience. Key events in a student's life can result in stressful feelings that can sometimes lead to depression or other problems. Your honest responses to the following questions will help us better understand what kind of issues you are dealing with in your life – and this information will help us design supports for students like you to deal with these issues.

The survey has five sections. Please read the instructions for each section and answer the questions as honestly as you can. Thanks for your help.

Life Events. Items in the following list of life events have been identified as having a potential impact on a student's life. Please check the "yes" box if you have actually experienced that event **in the past six months**.

Life Event	Have you experienced in past six months?
1. One of your parents died	☐ Yes
2. One of your brothers or sisters died	☐ Yes
3. A grandparent, aunt, uncle, or cousin you were close to died	☐ Yes
4. A friend you were close to died	☐ Yes
5. A pet you were close to died	☐ Yes
6. Someone else you were close to died	☐ Yes
7. A close friend moved away	☐ Yes
8. One of your brothers or sisters moved out of the house	☐ Yes
9. One of your brothers or sisters had serious trouble in school	☐ Yes
10. Your parents were separated	☐ Yes
11. You got a new brother or sister (born or adopted)	☐ Yes
12. A new person joined your household	☐ Yes
13. One of your brothers or sisters got in trouble with the law	☐ Yes
14. Your family had serious financial trouble	☐ Yes
15. Your mother and father argued more with each other	☐ Yes
16. Your mother or father spent much more time away from home	☐ Yes
17. A friend was seriously ill or injured	☐ Yes
18. A close friend about your age had sex for the first time	☐ Yes
19. A close friend about your age got pregnant	☐ Yes
20. One of your parents was seriously ill or injured	☐ Yes
21. One of your brothers or sisters was seriously ill or injured	☐ Yes
22. A grandparent or other relative was seriously ill or injured	☐ Yes
23. You changed schools	☐ Yes
24. Your mother or father got laid off	☐ Yes
25. Your mother or father got in trouble with the law	☐ Yes
26. You were a victim of a crime	☐ Yes
27. You got into serious trouble in school	☐ Yes
28. You got into serious trouble with the law	☐ Yes
29. Other: _____	☐ Yes
30. Other: _____	☐ Yes

How You Are Feeling. The following questions are concerned with how you have been feeling. Read each question carefully and check the box that best describes how often you felt or behaved this way **during the past week**.

Question	Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of the time	Most or all of the time
1. I was bothered by things that usually don't bother me.	☐	☐	☐	☐
2. I did not feel like eating, my appetite was poor.	☐	☐	☐	☐
3. I felt I could not shake off the blues even with help from my family or friends.	☐	☐	☐	☐
4. I felt I was just as good as other people.	☐	☐	☐	☐
5. I felt depressed.	☐	☐	☐	☐
6. I felt hopeful about the future.	☐	☐	☐	☐
7. I thought my life had been a failure.	☐	☐	☐	☐
8. I felt fearful.	☐	☐	☐	☐
9. My sleep was restless.	☐	☐	☐	☐
10. I was happy.	☐	☐	☐	☐
11. I talked less than usual.	☐	☐	☐	☐
12. I felt lonely.	☐	☐	☐	☐
13. People were unfriendly.	☐	☐	☐	☐
14. I enjoyed life.	☐	☐	☐	☐
15. I had crying spells.	☐	☐	☐	☐
16. I felt sad.	☐	☐	☐	☐
17. I could not get 'going'.	☐	☐	☐	☐
18. I felt that people disliked me.	☐	☐	☐	☐
19. I had trouble keeping my mind on what I was doing.	☐	☐	☐	☐
20. I felt that everything I did was an effort.	☐	☐	☐	☐

Support. The following questions ask about where you get support in your life. Read each question carefully and check the box that best describes how much support you get from that particular source.

1. **Support from family members** – Family members can include either immediate family such as your father, mother, a sister or brother or other important relatives such as aunts, uncles, or cousins. Your rating does not have to based on large number of family members – one close family member can be very supportive.
   - ☐ I do not turn to family members for support
   - ☐ I can turn to family members for a small amount of support
   - ☐ I can turn to family members for a moderate amount of support
   - ☐ I receive very strong support from family members

2. **Support from friends** – Friends can include any non-relative people with whom you may have regular contact and about whom you have positive feelings. Your rating does not have to based on large number of friends – one close friend can be very supportive.
   - ☐ I do not turn to friends for support
   - ☐ I can turn to friends for a small amount of support
   - ☐ I can turn to friends for a moderate amount of support
   - ☐ I receive very strong support from friends

3. **Support from personal religious faith** – Personal religious faith refers to any religious beliefs you may have regardless of church affiliation. It is not necessary for you to attend religious ceremonies to consider personal religious faith as supportive.
   - ☐ I do not turn to personal religious faith for support
   - ☐ I can turn to personal religious faith for a small amount of support
   - ☐ I can turn to personal religious faith for a moderate amount of support
   - ☐ I receive very strong support from personal religious faith

4. **Support from professional resources** – Professional resources refer to either a person in a helping profession (minister, doctor, counselor, nurse, lawyer, etc.) with whom you have contact or written materials, television programs, or presentation that you have found to be helpful.
   - ☐ I do not turn to professional resources for support
   - ☐ I can turn to professional resources for a small amount of support
   - ☐ I can turn to professional resources for a moderate amount of support
   - ☐ I receive very strong support from professional resources

5. **Self–support** – Self-support refers to your own sense of personal competence and support. When rating this question, consider how self-confident or self-assured you feel in dealing with issues that arise in your daily life.
   - ☐ I have little or no self-support
   - ☐ I have weak self-support
   - ☐ I have moderately effective self-support
   - ☐ I have a strong self-support

Academic Performance. The following questions ask about your performance at school and your attitude related to academics. Please read each of the following questions carefully and check the box that best describes how you feel about that particular item.

Statement	Strongly agree	Agree	Can't decide	Dis-agree	Strongly disagree
1. I feel like I have a positive attitude toward school.	☐	☐	☐	☐	☐
2. I work hard in school.	☐	☐	☐	☐	☐
3. I feel like I am performing to the best of my ability in school.	☐	☐	☐	☐	☐
4. I have plans to further my education beyond high school.	☐	☐	☐	☐	☐
5. I am confident in my abilities in school.	☐	☐	☐	☐	☐
6. I feel my high school experience is preparing me well for adulthood.	☐	☐	☐	☐	☐
7. I have enjoyed my school experience so far.	☐	☐	☐	☐	☐
8. I have good attendance.	☐	☐	☐	☐	☐
9. I have passed all areas of the Ohio Graduation Test (OGT).	☐	☐	☐	☐	☐
10. I have *not* had to be disciplined at school.	☐	☐	☐	☐	☐

About You.   Finally, we want to know some brief descriptive information about you. Please check the appropriate box or write in the answer (for age).

1. Your gender?
   ☐ Male
   ☐ Female

2. Your age: _____ years

3. Your grade in school?
   ☐ 9
   ☐ 10
   ☐ 11
   ☐ 12

4. Your ethnicity?
   ☐ White/Caucasian
   ☐ Black/African American
   ☐ Hispanic American/Latino
   ☐ Asian American/Pacific Islander
   ☐ Native American/American Indian
   ☐ Other _____

5. On average, what grades do you get in school?
   ☐ Mostly A's
   ☐ A's and B's
   ☐ Mostly B's
   ☐ B's and C's
   ☐ Mostly C's
   ☐ C's and D's
   ☐ Mostly D's
   ☐ D's and F's
   ☐ Mostly F's

6. How far do you expect to go in your education?
   ☐ Some high school
   ☐ Graduate from high school
   ☐ Go to a technical school
   ☐ Graduate from a technical school
   ☐ Some college
   ☐ Graduate from a junior college
   ☐ Graduate from a four year college
   ☐ Earn a professional degree
   (Nurse, Doctor, Lawyer, Psychologist, Social Worker, etc.)

Thank you for your time and honest responses.