STRESS AND DEPRESSION AMONG

GRADUATE STUDENTS

By

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CHAPTER I

REVIEW OF THE LITERATURE

Introduction

Studies of college and student characteristics have proliferated in recent years in an effort to understand student attitudes and college adjustment (Betz, Klingensmith, and Menne, 1970). Most of this effort has been directed at the undergraduate population. By contrast, there is a dearth of research aimed at understanding the problems of the graduate student. Furthermore, the small body of literature dealing with graduate student adjustment is often marred by contradiction. There appears to exist a need for investigation into the stress and depression so often encountered among graduate students.

The following reviews selected studies which use samples of undergraduates only, mixed samples of graduate and undergraduate students, and samples of graduate students only. Including studies whose samples are not composed exclusively of graduate students is unavoidable, since there is such a paucity of research using graduate students alone as subjects. This selective review will include studies involving undergraduates in order to fill two weak points in the graduate student literature. First, these studies will

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be used to characterize the atmosphere of the college campus and to facilitate comparisons between students and nonstudents. Second, this selective review will be used as the basis for extrapolation from undergraduate to graduate students in order to formulate hypotheses.

In an effort to clearly indicate when a cited study involves undergraduate or mixed samples, the citation will refer to the subjects as "college students." The term "graduate students" will be reserved for studies using only graduate students as subjects.

Selected Literature Review

Depression has frequently been cited as the most common psychiatric disorder among college students (Bumberry, 1978). Seligman (cited in Bumberry, 1978) contends that it is not only the most common psychological dysfunction among students, but that it is also increasing in frequency. Consequently, the college campus has been characterized by a generalized state of anxiety (Vincent, 1970) in which an estimated 78% of the seven and one-half million college students will become depressed in the course of an academic school year; as many as 25% may be depressed at any one time (Beck, 1978). These findings suggest that the rate of depression is 50% higher in college students than in American adults between the ages of 18 and 74 (Bumberry, 1978).

The suicide rate among college students is indicative of the intensity, frequency, and seriousness of depression.

Coleman (1972) estimated that 10,000 students attempt sui-
cide each year - 1000 succeed. This rate is 50% higher
than that for nonstudents in the same age group (Beck,
1978). Depression has proven to be the leading cause of
suicide among college students (Beck, 1978; Coleman, 1972).

Students who attempt suicide are, as a group, superior
students. These students set high personal standards of
excellence, are competitive, and exhibit anxiety over scho-
lastic obligations (Coleman, 1972). The foregoing descrip-
tion of the type of student prone to depression and suicide
also characterizes the individual who endeavors to do gradu-
ate work, i.e., one who is competitive and maintains high
standards of academic excellence.

Due to the increased academic pressure and prolonged
stress experiences, the adjustment demands a person encoun-
ters as a graduate student are more compelling than those
encountered as an undergraduate. The attrition rate among
graduate students may be taken as an indication of the in-
creased stress. Fewer than 50% of those students who begin
graduate work with the intention of earning a doctoral de-
gree actually persist long enough to do so (Kjerluff and
Wiggins, 1975).

The presence of the increased stress calls for some
unique adaptive behavior. Those graduate students who react
to the pressure with anxiety are most successful in their
academic endeavors. Those who react with self-doubt and
self-reproach are less competent in dealing with the soci-

oses (Kjerluff and Wiggins, 1975). The type of situation
which characterizes graduate student life is a double-bind.
That is, to be a successful graduate student requires en-
during several years of transsituational anxiety; to be un-
successful results in lower self-esteem and deleterious
self-reproach.

The ultimate determinant of success and adjustment in
college is the presence or absence of satisfying interper-
sonal relationships (Beck, 1978; Heilbrun, 1970; King, 1973;
Vincent, 1970). Strong interpersonal relationships act as a
buffer, protecting the individual from his own inadequacies
and the demands of college life. Without the support of
others, the college student will experience any of several
different types of loneliness, all of which can lead to de-
pression (Beck, 1978). The failure to establish social con-
tact often reflects immature and inadequately developed
social skills. Unfortunately, the social skills the indi-
vidual needs in order to overcome depression are the same
social skills whose lack caused the depression (Funabiki,
1977).

Since interpersonal relations stand as the primary
cause of depression, one would expect interpersonal rela-
tions to be the primary concern among college students.
Several studies have indicated that contact with significant
others is more enigmatic than any other facet of college
life (Heilbrun, 1970; Vincent, 1970). Graduate students
experience stressful interpersonal relations from several

sources, but none is as stressful as those involving faculty
(Baird, 1967). Psychologically distant professors can cause
student morale to drop. When professors have ambiguous or
conflicting expectations, students feel severe stress which
may cause them to become socially withdrawn and isolated.
Under this type of pressure, even departments that do not
emphasize competition can be difficult and demanding. It is
the graduate school and the faculty control over many of the
contingencies which define the graduate student role, com-
plete with anxiety and depression.

The literature which affords an overview of graduate
and undergraduate life is very diverse. In order to facili-
tate presentation of this literature, the remainder of this
chapter will be subdivided according to the topic of re-
search being presented.

Age, Sex, and Marital Status

Research has consistently found that the "young" stu-
dent, graduate or undergraduate, is the most likely to en-
counter problems (Beck, 1978; Heilbrun, 1970). The most
common age-related problem is the dependency-alienation con-
flict; i.e., the desire to return to the safety and security
of the family in response to the challenge to develop auton-
omy. For those with inadequate social skill, this conflict
often leads to loneliness and depression. Among graduate
students, the young married student with children experi-
ences the most stress (Baird, 1967).

Studies on sex-related responses to the environment indicate that there are systematic differences in the manner which male and female college students behave. Males are more reluctant than are females to seek counseling for their problems (King, 1973). This has the effect of generating a male clientele with more serious problems than the female clientele (Heilbrun, 1970). The major problems the males experience include: difficulties with personal relations, uncertainty about the future, and vocational concerns. The maladjusted male is characterized by a low achievement need, lack of order in his life, social isolation, and feelings of inferiority and inadequacy (Heilbrun, 1970).

Females are less embarrassed to seek help; however, their perception of the counseling situation and its participants is more negative than that of the male (King, 1973). The female identifies interpersonal relations with males, roomates, and parents as the primary source of her problems. Females with vocational commitments experience intense anxiety over the career-marriage conflict, in addition to the normal anxiety about interpersonal relationships (Vincent, 1970). The maladjusted female is characterized by conventional beliefs, feelings of inferiority, and low task endurance (Heilbrun, 1970).

Both sexes are equally concerned with academic achievement. The key factor contributing to success differs for the sexes. Successful females react to academic pressure

with anxiety; successful males react with repression. Non-
anxious and nondefensive males and females are underachiev-
ers (Stixx, 1966).

Age and sex are not good indicants of a graduate stu-
dent's marital adjustment (Clifford, 1977). Among married
graduate students, stress is greater for those recently mar-
ried or with children (Baird, 1967). Clifford (1977) found
no significant differences on the Mooney Problem Check List
for married and unmarried graduate students. However, mar-
ried graduate students must contend with a unique set of
problems in the area of marital versus academic obligations
and the problem of husband and wife growing apart (Stebbins,
1975).

Domicile and Financial Status

King (1973) found that students living in apartments
are the least reluctant to seek a counselor when experienc-
ing emotional problems, whereas fraternity and sorority
residents are the least likely to seek help at any time.
Despite these attitudinal differences, there are no differ-
ences among dorms, fraternities, sororities, apartment
dwellers, and those who live at home with respect to the
frequency these groups use counseling facilities. In fact,
occupants of various types of residences seem quite homo-
geneous in whom they would seek for help when they experi-
ence emotional problems. The available research does not
indicate that residents of different dwellings experience

similar or dissimilar problems.

Surveys of college students indicate that financial concerns are very remote. When college students were asked to rank their most serious problems, Vincent (1970) found finances to be ranked low. Findings like this may actually be an artifact of the studies themselves, since most of the research is done by psychologists using psychological variables. Consequently, some variables, like financial status, are obscured or ignored.

Year Classification, Grade Point
Average, and Major

Among graduate students, the intensity of stress decreases the longer one is in the program. This may be confounded with the age effect, i.e., younger students are more prone to problems. King (1973) found that among undergraduates there is no difference between seniors and freshmen in the percentages that use the counseling services or in their perceptions of the type of person who uses the counseling services. The same study suggests that the higher the year classification, the better the perception of the counseling process.

Psychodynamic analyses of achievement and GPA reveal repression to be related to first-semester scholastic achievement (Stixx, 1966). Students who failed to react to academic demands with anxiety or repression were underachievers. Kjerluff and Wiggins (1973) support this finding

and indicate that anxiety characterizes the successful graduate student.

It has often been noted that different types of individuals characterize the various majors offered by a university. McCaulley (1976) found applied fields like physical education, business administration, engineering, and biological sciences to attract individuals who like to operate mainly with their senses. These individuals enjoy observing and manipulating the real, tangible world. Individuals who are inclined to conceptualize and use the perceptions of the "mind's eye," e.g., to make hunches or be intuitive, pursue degrees in the humanities and behavioral sciences. Students in the humanities or behavioral sciences, when compared to those in the applied fields, were found to be more open, curious, and flexible in response to novel situations.

Defining the Problem

Graduate work is a stressing endeavor, and graduate students are particularly inclined to react to these stresses with anxiety and depression. The purpose of this study is to discover who among the graduate students experiences psychological problems and what steps are taken to cope with these problems. The results of the study will be used to add to the body of literature concerning graduate students and to point the direction for future research in the area. The predominant focus of this study will be to

evaluate the psychological needs of the graduate students and to assess the degree to which these needs are being met. The Beck Depression Inventory and a survey developed by M. L. Ferrara will be used. Recommendations on how to ameliorate the conditions of the graduate student life will be made on the basis of the results.

Hypotheses

Age, Sex, and Marital Status

(1) The younger graduate students will experience more depression, loneliness, marital, and adjustment problems than will the older students.

(2) Males will exhibit higher achievement need than will females.

(3) Females will exhibit more loneliness, depression, adjustment, and marital problems than will males.

(4) Unmarried students will be more depressed than will married students.

(5) Married students will exhibit less loneliness than will unmarried students.

(6) Marriages of less than two years will exhibit more marital problems than marriages of more than two years.

Domicile, Distance from Hometown, and Financial Status

(7) Students living in a house or apartment will ex-

hibit less loneliness than will students living in any other type of dwelling.

(8) Those students living more than 500 miles from their hometown will exhibit more depression, loneliness, and marital dissatisfaction than will students living less than 500 miles from their hometown.

(9) Students whose yearly income is less than $4000 will experience more depression, loneliness, and marital dissatisfaction than will students whose income is more than $4000 per year.

Major, Degree Sought, Year Classification, and Grade Point Average

(10) Hard science students will exhibit higher achievement needs and more adjustment and marital problems than will Soft science students (see Chapter II for a definition of the Hard and Soft Sciences).

(11) Students in a terminal master's program will exhibit less depression, loneliness, adjustment, and marital problems than will Ph.D. students.

(13) The Ph.D. students in their first two years of graduate work will experience more depression, loneliness, adjustment, and marital problems than will Ph.D. students beyond their second year of graduate work.

(14) Students with GPA's in the bottom one-third of the sample will experience more loneliness than will students with higher GPA's.

(15) Students with GPA's in the top one-third of the sample will exhibit a higher achievement need than will students with lower GPA's.

CHAPTER II

METHOD

Subjects

Subjects were 114 full-time graduate students current-
ly enrolled at a major university. Subjects were between
the ages of 21 and 38, were in their first to fourth year
of graduate school, and resided within a 70 mile radius of
the campus. In the sample, 35% of the subjects were female
and 65% were male. Distribution by major showed that 12%
were majoring in Biological Sciences, 39% in Physical Sci-
ences, 13% in Humanities, and 36% in Social Sciences. Dis-
tribution by sex and major reflected proportions found in
the total graduate school enrollment. For purposes of this
study, the Biological and Physical Sciences were combined
to form what will be referred to as the Hard Sciences; the
Social Sciences and Humanities were combined and labeled
the Soft Sciences. See Appendixes A and B for characteris-
tics of subjects.

Materials

Demographic Questionnaire

This questionnaire was designed by M. L. Ferrara to

collect data on a subject's age, sex, marital status, year classification, grade point average, financial status, domicile, distance from hometown, and major. Information from this questionnaire was used to establish the levels of the blocking variables. See Appendix C for a copy of this questionnaire.

Beck Depression Inventory

The Beck Depression Inventory was developed by Aaron T. Beck, and is a multiple choice questionnaire consisting of 21 behavioral categories based on symptoms and attitudes associated with depression (see Appendix C to examine the categories). Scores are calculated by summing the points for each of the 21 categories. The present study followed Beck's recommendation to use a score of 13 or above to differentiate depressed from nondepressed subjects.

The inventory was originally normed on 966 subjects over a period of several years. Correlations between the inventory and other measures of depression are: .75 with the MMPI D scale, .66 with the Lubin Check List, and .73 for clinical ratings for depth of depression (Beck, 1967). The split-half reliability is .86 (Beck, 1967). There is evidence to support the use of the Beck Depression Inventory to survey college students (Bumberry, 1978).

Graduate Life Survey

This questionnaire was developed by M. L. Ferrara. It

consists of 45 Likert-type items, each with seven response alternatives ranging from "strongly agree" through "undecided" to "strongly disagree," scored 7 to 1 points respectively. The Graduate Life Survey (GLS) was designed to measure four dimensions of a graduate student's life, selected on the basis of research done on the topic (Beck, 1978; King, 1973). The four dimensions are:

(1) Achievement - a measure of one's internalized personal standards or response to the standards of others which results in the desire or tendency to do well.

(2) Interpersonal - a measure of four types of loneliness, including the following:

        a) exclusion - feeling one doesn't belong to a desired group.

        b) feeling unloved - a lack of close, personal relations which provide intimacy and security.

        c) constriction - feeling that one's thoughts and feelings are bottled-up inside and there is no one who cares.

        d) alienation - feeling that one is completely different from others.

(3) Adjustment - subjective appraisal of one's happiness and satisfaction with life and the ability to constructively deal with stress.

(4) Marriage - a measure of one's happiness within the marriage and a subjective appraisal of how well married

life and academic obligations are being integrated.

Following the GLS, subjects responded to a set of seven open-ended questions. This section was designed to uncover common problems and coping strategies, use of counseling services at OSU, and awareness of these services. (Copies of each of the questionnaires and the set of seven open-ended questions are listed in Appendix C.)

Procedure

Subjects who were eligible to participate in the study were contacted by telephone and asked to meet with the examiner at a designated time and place. The Demographic Questionnaire, the Beck Depression Inventory, The Graduate Life Survey, and the open-ended questions were administered to each subject in one test session. The order of presentation of the questionnaires was randomized to prevent an order effect. The average testing time per subject was 30 minutes. It took six test sessions to collect data on all 114 subjects.

The test began after all the subjects were seated and the instructions had been given. The subjects began work on the survey and continued until they had finished. Upon completing the survey, subjects turned in their work and were debriefed. (Instructions and debriefing can be found in Appendix C.)

Experimental Design and Analyses

The experiment consisted of five dependent variables and nine blocking variables. The five dependent variables were self-ratings on the following: depression, achievement need, loneliness, personal adjustment, and marital satisfaction. The nine blocking variables included: age, sex, marital status, financial status, domicile, distance from hometown, grade point average (GPA), year classification, and major field of study. The overall experimental design was a 2x2x4x2x4x3x4x4 Static Groups design on five dependent variables.

The mean age of the sample was used to dichotomize the subjects on the age factor (young, old). Increments of $4000 were used to make the four levels of the financial status factor. A mileage scale was used to measure the distance from hometown. In all cases, the levels of the blocking variables did not reflect any specific theory or study of graduate students; rather, the levels of the blocking variables were logically derived and designed to gather information on a large scale. Following is a list of the levels of the blocking variables:

Blocking Variable	Levels
Age	21-27
	28-38
Sex	Male
	Female

Marital Status	Married
	Unmarried
Financial Status	$1000-4000 per year
	$4000-8000
	$8000-12,000
	Over $12,000
Domicile	Apartment or House
	Other
Distance from Hometown	0-100 Miles
	100-250
	250-500
	500 or more
GPA	Top third (3.90-4.00)
	Middle third (3.60-3.89)
	Bottom third (2.80-3.59)
Year Classification	First year
	Second year
	Third year
	Fourth year
Major	Biological Sciences
	Physical Sciences
	Social Sciences
	Humanities

The statistical techniques used to analyze the data were t tests and univariate ANOVA's to detect between-group differences, polynomial regression to detect trends in the data, and multiple linear regression to develop predictive

equations. For all analyses, a probability of .05 was used as the level of significance.

Since no hypothesis dealt with the interaction of two or more blocking variables, the statistical analyses were conducted within each blocking variable, comparing its different levels. In the case where a blocking variable had only two levels, a t test was used to detect differences. When evaluating a blocking variable with more than two levels, a univariate ANOVA was used, since it is a more appropriate test than the t test in this case. If the univariate ANOVA detected significant results, the data were subjected to further analyses by t tests and polynomial regression in an effort to specify the source of the differences.

Multiple linear regression was used to develop equations which would identify individuals inclined to have problems in one or more of the areas measured by the dependent variables. The five dependent variables were the criterion variables and the blocking variables served as the predictors. When a dependent variable was not being used as a criterion variable, it was included among the blocking variables as a predictor.

Some of the blocking variables proved to be inappropriate for the regression technique, due to their lack of even ordinal properties. Qualitative blocking variables with more than two subdivisions were either reduced to two subdivisions or the actual value of that variable was used. This necessitated using the Hard vs. Soft Sciences instead

of the four fields of study, and less than 250 miles from
hometown vs. more than 250 miles from hometown. The actual
age, GPA, and number of semesters accrued for each subject
was used in calculating the regression equation.

CHAPTER III

RESULTS

The results will be presented in the order in which
the topic areas appear in the Review of the Literature and
the List of Hypotheses. When the analysis involved compar-
ison of two groups, t tests were used. When more than two
groups were compared, the statistical analysis was conduc-
ted using an ANOVA. Regardless of the type of test, the
level of significance for all tests was .05.

Age, Sex, and Marital Status

The subjects in the sample were divided into two
groups on the basis of their age. The mean age of the sam-
ple, 27, was used as the cut-off point. T tests were used
to compare those older than 27 to those 27 years old and
younger on the five dependent variables, the Beck Depres-
sion Inventory (BDI), the Achievement Scale (Ach), the In-
terpersonal Scale (Int), the Adjustment Scale (Adj), and
the Marital Satisfaction Scale (Mar).

Of the five dependent variables, three turned out to
be significant: the BDI, Int, and Adj. There were no sig-
nificant differences on the Ach or Mar. In the instance
where significant results were present, the group composed

of the younger students had the highest scores. The elevated scores indicate that these areas are sources of stress for the younger students. These data are presented in Table I.

TABLE I

MEANS AND LEVEL OF SIGNIFICANCE FOR
T TESTS ON THE AGE, SEX, AND
MARITAL STATUS FACTORS

Factor	BDI	Ach	Adj	Int	Mar
Age					
LE 27	7.18	41.86	33.19	31.31	26.68
GT 27	4.45	42.55	28.10	26.61	22.95
Sign. level	.005	.69	.01	.006	.11
Sex					
Male	5.44	40.66	30.04	29.34	25.07
Female	8.33	44.76	35.47	31.34	26.29
Sign. level	.002	.007	.004	.23	.61
Marital Status					
Married	6.96	42.15	33.45	31.53	-----
Unmarried	5.95	41.97	30.22	28.60	-----
Sign. level	.24	.91	.06	.07	-----
Length of Marriage					
LE 2 years	8.36	41.96	33.68	29.44	29.00
GT 2 years	4.53	42.03	28.14	28.29	23.30
Sign. level	.001	.97	.03	.64	.02

The analyses of differences between males and females on the five dependent variables evinced differences between the sexes on the BDI, Ach, and Adj. There were no differences on Int or Mar. In all cases, the females had the

higher scores. Therefore, the female graduate student can be characterized as more depressed and more likely to experience adjustment problems. Also, the female graduate student is more achievement-oriented than her male counterpart. These data are presented in Table I.

A predominant number of females were present in the age group composed of subjects 27 years old and younger. (The correlation of sex with age group was significant at the .02 level.) With this kind of relationship, it is possible that some of the significant results for the age factor were due to the influence of the sex factor. That is, the largely female composition of the younger group and the largely male composition of the older group may have biased the results. Consequently, t tests on the two age groups were computed for males and females separately. Of the t tests performed on the males, the Int and Adj scales were found to be significant. There were no significant results for t tests done on the two age levels for the female group. This analysis indicates that the difference between the age groups on the Int and Adj scales when both sexes were used was due exclusively to the differences found between younger and older males. These data are in Table II.

The analyses of differences between married and unmarried (i.e., single or divorced) graduate students revealed no significant results. However, an analysis was performed comparing those students married two years or less to those students married for more than two years. Of the

five t tests computed, three turned out significant. They
were the BDI, Adj, and Mar. There were no significant dif-
ferences on the Ach and Int. In all t tests of signifi-
cance, the group of students married for two years or less
exhibited the higher scores, indicating that they experi-
ence these areas to be more problematic. These data are in
Table I.

TABLE II

MEANS AND LEVEL OF SIGNIFICANCE FOR
T TESTS ON THE AGE GROUPS
HOLDING THE SEX FACTOR
CONSTANT

Sex	BDI	Ach	Int	Adj	Mar
Males					
LE 27	6.09	40.22	31.29	31.56	26.92
GT 27	4.31	41.42	25.96	27.38	22.75
Sign. level	.10	.56	.01	.04	.15
Females					
LE 27	8.79	44.21	31.55	36.03	*
GT 27	5.20	48.40	30.00	31.08	*
Sign. level	.11	.06	.53	.56	

*Only 14 of the 39 females were married. Thirteen of
the 14 were in age group I, LE 27 years old. Statistical
analysis proved to be impossible.

Domicile, Distance from Hometown,

and Financial Status

There were no differences on the five dependent vari-

ables as a result of the Domicile factor. This may be an
artifact of the distribution of students in various domi-
ciles. Of the graduate students surveyed, 106 of the 114
students lived in either a house or apartment. Six of the
eight students, all from the Physical Science major, not
living in a house or apartment resided in a dormitory. The
data are in Table III.

TABLE III

MEANS AND SIGNIFICANCE LEVELS FOR TESTS
MADE ON THE DOMICILE, DISTANCE FROM
HOMETOWN, AND FINANCIAL
STATUS FACTORS

Factors	BDI	Ach	Int	Adj	Mar
Domicile*					
Apt. or House	6.53	41.90	29 90	32.05	25.46
Other	5.13	44.00	31.25	28.13	22.50
Sign. level	.26	.48	.70	.24	***
Hometown**					
0-100 Miles	8.33	43.28	32.94	37.39	34.00
100-250 Miles	7.43	41.86	30.90	32.82	30.27
250-500 Miles	5.36	40.77	29.59	30.27	24.58
Over 500 Miles	3.62	43.00	25.81	26.62	22.40
Sign. level	.002	.74	.05	.002	.03
Financial Status**					
$0-4000	6.28	41.59	30.05	32.10	25.50
$4000-8000	5.26	39.47	30.32	29.63	27.83
$8000-12,000	8.69	43.63	35.50	35.19	26.43
Over $12,000	6.23	43.19	27.41	31.03	23.11
Sign. level	.15	.33	.02	.31	.58

*Statistical tests were made using a t test.
**Statistical test were made using a one-factor ANOVA.
***No tests made because there was only one subject in
the "Other" category.

The Distance from Hometown factor was analyzed across all five dependent variables using a one-factor ANOVA. The analysis found only the Ach scale to be nonsignificant. The BDI, Int, Adj, and Mar scales all showed a similar pattern. That is, as the distance from hometown increased, the scores decreased. This inverse linear relationship was subjected to trend analysis through polynomial regression. For all four of the dependent variables tested, the linear equation best accounted for the trend in the data. A table of the trend analysis data may be found in Appendix G.

Analyses of the five dependent variables on the Financial Status factor found the Int scale as the dependent variable on which the four income categories differed. The significant results were produced by the elevated score of Group III, the $8000-12,000 a year group. The other three groups were very close to the mean score. These data are in Table III.

Major, Degree Sought, Year Classification, and Grade Point Average

When the five dependent variables were analyzed using a one-factor ANOVA, the Major Field of Study factor produced no significant results. That is, according to this survey on the variables measured, there is no difference among the Social Sciences, Humanities, Biological Sciences, and the Physical Sciences. The Physical and Biological Sciences were combined to form the Hard Sciences. The Soft

Sciences were formed by merging data from subjects in the Social Sciences and the Humanities. Differences between the Hard and Soft Sciences were measured by use of t tests on the dependent variables. Once again, no differences were found. These data are in Table IV.

Comparing students in terminal master's programs to students in Ph.D. programs yielded significant results on three of the five dependent variables. There were differences between the two groups on the BDI, Adj, and Mar scales. In all cases, the terminal master's students exhibited the higher scores. An analysis was conducted to determine if there were differences within degree programs as a result of being less than half-way through the program. Within each of the degree programs, there were no differences on the five dependent variables. These data are in Table IV.

The sample was divided into four groups on the basis of the number of semesters completed. Group I was composed of students who had completed at most two semesters, Group II was comprised of students with 3 to 4 semesters completed, Group III of those with 5 to 6, and Group IV with 7 to 8 semesters of graduate work. The five dependent variables were analyzed across groups by use of a one-factor ANOVA. There were no significant differences on any of the dependent variables. Another analysis was conducted by combining Groups I and II, and combining Groups III and IV. By using a t test, the two new groups were found to differ

TABLE IV

MEANS AND LEVELS OF SIGNIFICANCE FOR
TESTS MADE ON MAJOR, DEGREE
PROGRAM, AND YEAR
CLASSIFICATION

Factor	BDI	Ach	Int	Adj	Mar
Major**					
Soc. Science	6.77	42.44	29.98	31.95	24.56
Humanities	6.76	45.67	30.17	32.08	21.10
Bio. Science	5.10	40.63	29.89	31.05	21.31
Phys. Science	6.61	41.23	30.03	31.82	28.80
Sign. level	.59	.32	.99	.98	.07
Science*					
Hard	6.12	41.03	29.98	31.57	26.64
Soft	6.76	43.17	30.02	31.98	23.76
Sign. level	.46	.16	.98	.81	.30
Degree*					
M.A.	7.47	41.71	31.34	33.68	28.73
Ph.D.	5.02	42.52	28.46	29.25	21.86
Sign. level	.003	.61	.08	.01	.004
M.A.*					
First Half	7.75	42.13	32.35	33.25	32.00
Second Half	7.37	41.57	31.02	33.83	28.08
Sign. level	.81	.81	.53	.83	.32
Ph.D.*					
First Half	6.75	43.36	31.64	31.00	25.50
Second Half	4.47	42.27	27.51	28.73	21.28
Sign. level	.08	.65	.24	.58	.16
Year**					
First	7.35	42.35	32.35	34.00	31.00
Second	7.26	41.58	28.94	31.56	25.56
Third	5.43	44.85	30.30	33.30	25.92
Fourth	5.04	40.14	28.35	28.19	21.61
Sign. level	.12	.26	.28	.09	.07
Career*					
LE 2 years	7.30	41.95	30.57	32.73	27.50
GT 2 years	5.21	42.20	29.20	30.41	23.42
Sign. level	.01	.88	.44	.18	.09

*Statistical tests were made using a t test.
**Statistical tests were made using a one-factor ANOVA.

significantly on the BDI. Those students early in their
career, i.e., the group comprised of Group I and Group II,
scored significantly higher. These data are in Table IV.

The GPA factor was investigated by forming three
groups of students from the top, middle, and bottom thirds
of the distribution of Grade Point Averages (GPA) for the
sample. The top third of the students had GPA's ranging
from 3.90 to 4.00, the middle third had GPA's ranging from
3.60 to 3.89, and the bottom third had GPA's from 2.80 to
3.59. The one-way ANOVA was used to investigate the GPA
factor and found significant results for the Ach and Int
scales. The Ach scores were significantly higher for the
top third. The Int scores tended to decrease as GPA rank-
ing increased. These data are in Table V. This trend in
the Int scores was subjected to polynomial regression. The
linear equation was found to best account for the trend in
the data (see Appendix G).

TABLE V

MEANS AND LEVELS OF SIGNIFICANCE FOR THE
ANOVA USED TO ANALYZE THE GPA FACTOR

Factor	BDI	Ach	Int	Adj	Mar
GPA					
4.00-3.90	6.00	44.89	27.91	31.60	22.61
3.89-3.60	6.33	41.18	29.00	30.15	25.50
3.59-2.80	7.14	40.31	33.37	33.89	28.40
Sign. level	.56	.04	.02	.22	.20

Open-Ended Questions

Question One was a two-part question which inquired, "Are you presently experiencing an emotional or interpersonal problem?" and "How are you dealing with it?". In response to the first part of the question, 38% of the sample answered "Yes". A statistical analysis across demographic variables indicated that students younger than 27 years old, females, and those in their first two years of graduate work were more likely to admit to a problem than students over 27 years old, males, and those beyond their second year of graduate work (see Appendix E). Sixty-three percent of those experiencing a problem dealt with it by ignoring it or keeping it to themselve. Only 8% had sought professional help of some kind, e.g., psychologist, minister, etc. These data are in Table VI.

Question Two asked, "How have you dealt with emotional crises in the past?". The percentage which sought professional help stayed the same as with Question One, 8%. Seeking the help of a friend or relative was the most common mode of handling problems. The percentage of those who kept the problem to themselves or who ignored it was still very high (39%). These data are in Table VI.

Question Three asked, "If you had a problem you felt you couldn't handle alone, would you see a psychologist?". A majority of the students responded in the affirmative, but a large number of those answering "Yes" indicated they

would go only if they were forced. Forty-one percent of
all the students stated they would refuse to seek a psycho-
logist even under these conditions. Of those responding
"No", thirteen percent said they were too embarrassed or
afraid to see a psychologist. The remaining 70% said they
would find some other way to work it out (see Table VII).

TABLE VI

FREQUENCY AND PERCENTAGE BREAKDOWN
OF RESPONSES TO OPEN-ENDED
QUESTIONS ONE AND TWO

Question	Frequency	Percentage
Question 1a		
Yes	44	38
No	70	62
Question 1b		
Ignore problem	10	23
Keep it to self	16	40
Seek others	13	30
Seek professional	4	8
Question 2		
Ignore problem	15	16
Keep it to self	22	23
Seek others	37	40
Seek professional	7	8

Question Four asked if the student had ever gone for
counseling and, if so, did he/she feel that it was benefi-
cial. Thirty-five percent of the students had gone to a
counselor at some time in their lives. Seventy-two percent

of those students felt counseling had been a positive ex-
perience. These data are in Table VII. A statistical an-
alysis of this question across demographic variables showed
females were more likely than males to have had counseling,
Soft Science students were more likely than Hard Science
students, and married students were more likely than unmar-
ried (i.e., single or divorced) to have had counseling (see
Appendix E).

TABLE VII

FREQUENCY AND PERCENTAGE BREAKDOWN
OF RESPONSES TO OPEN-ENDED
QUESTIONS THREE AND FOUR

Question	Frequency	Percentage
Question 3a		
Yes	67	59
No	47	41
Question 3b		
No help	6	13
Afraid/Embarrassed	8	17
Work it out by self	7	15
Other professional	25	55
Question 4a		
Yes	40	35
No	74	65
Question 4b		
Yes	36	72
No	14	28

The results from Question Five revealed that 40% of

the students felt they had neglected to seek out profes-
sional help at some time in their past when they could have
used it. The most frequently cited reason for not seeking
professional help was that the student was either too
afraid or too embarrassed. The second most common reason
for not seeking help was that the student felt a profes-
sional could be of no service. The data are in Table VIII.

TABLE VIII

FREQUENCY AND PERCENTAGE BREAKDOWN
OF RESPONSES TO OPEN-ENDED
QUESTION FIVE

Question	Frequency	Percentage
Question 5a		
Yes	46	40
No	68	60
Question 5b		
Expect no help	11	24
Afraid/Embarrassed	18	42
Work it out alone	10	21
Nonprofessional help	7	13

Question Six merely asked, "If you needed help, who
would you go to?". Twenty-six percent said they would go
to a psychologist. The second most frequent answer was
that the student would turn to someone in his/her family,
iether parents or siblings. Eight percent of the students

said they either did not know or would not seek outside

help. There were no differences on this response across

the demographic variables. The data are in Table IX.

TABLE IX

FREQUENCY AND PERCENTAGE BREAKDOWN
OF RESPONSES TO OPEN-ENDED
QUESTIONS SIX AND SEVEN

Question	Frequency	Percentage
Question 6		
Don't know	7	5
No one	4	3
Family	25	22
Spouse	10	9
Friend	22	20
Minister	11	10
Psychologist	29	26
Psychiatrist	7	5
Question 7		
None	60	53
One	29	26
Two	10	9
Three	11	10
Four	2	1
Five	1	1

The final open-ended question asked the students to

list all the university facilities they knew which offer

psychological counseling. Eighty students, or 53%, could

not name a single university facility. An additional twen-

ty-nine students, 26%, could name only one of the psycholo-

gical services on campus. These data are in Table IX.
When this question was compared across demographic varia-
bles, significant results were found on the Major Field of
Study, the Hard vs. Soft Sciences, and the number of semes-
ters of graduate work. The differences indicate that Soft
Science students know of more facilities than do Hard Sci-
ence students. This difference can be accounted for in
terms of the Major Field of Study effect. The analysis re-
vealed that Social Science students knew of significantly
more facilities than the other majors. The number of semes-
ters effect does not establish a clear trend, but the pat-
tern is for the student to know of more facilities as their
number of semesters of graduate work increases. These data
are in Appendix E.

Regression and Prediction

A stepwise multiple regression procedure was employed
in an attempt to develop equations to predict the five de-
pendent variables. Each dependent variable was considered
individually. When not acting as a criterion variable, the
dependent variables were used as predictors along with all
the demographic variables. A table of the results of all
the regression analyses may be found in Appendix F.

The stepwise regression procedure found the best pre-
dictor of the BDI to be the Adj. The squared multiple cor-
relation was .40. It is interesting to note that when the
Mar score is combined with the Adj score, the squared multi-

ple correlation (R^2) is .39, using about half as many ob-
servations. (This is all the observations possible in this
case, since the number of married students in the sample is
small.) Thus, the latter model has some promise of being a
better predictor.

The regression analysis on the Ach score found sex to
be the best predictor, but the R^2 was only .07. Conse-
quently, the amount of variability remaining is so large
that prediction based exclusively on sex would be very in-
accurate.

The equation which best predicts the Int score changes
for married and unmarried students. For unmarried students,
the Adj and GPA equation best predicts Int scores, with an
R^2 of .34. For married students, Int is best predicted by
the Adj and Mar equation, with R^2 in this instance equal to
.39.

For the Adj, the equation which best predicts uses the
BDI, Int, Distance from Hometown, and GPA as predictors.
The R^2 for this model is .55.

The best prediction of Mar scores is based on the equa-
tion which combines the Int and one's degree program. The
R^2 is .37. Another equation which uses the Int and BDI
predicts the Mar and has an R^2 of .36. These two models
have very similar R^2 and could be used to verify results
via comparison.

CHAPTER IV

DISCUSSION AND IMPLICATIONS

Discussion of the Hypotheses

Hypothesis #1 was partially supported. The younger students did exhibit more depression, loneliness, and adjustment problems. These results are consistent with other research conducted on this topic. Heilbrun (1970) postulated that this effect results from a dependency-alienation conflict intrinsic in breaking away from one's parents and establishing one's own individuality. Beck (1978) posits immature social skills and a threatening new environment as the source of the young students' problems. These two theories combined speak to the young students' vulnerability and proclivity toward psychological problems which is certainly what this study uncovered.

The predicted differences between young and old students on marital satisfaction was not found. The lack of significant results here and whenever the Marital Satisfaction scale was used may be an artifact of the study. The range of scores for this scale was small relative to the other scales. Furthermore, the standard deviation was relatively large as compared to the other scales. These facts

in combination with the fact that tests using the Marital Satisfaction scale involved half the sample made it difficult to detect differences between groups. The differences may exist, but the test could not detect them.

Hypothesis #2 was not supported and, in fact, the opposite was found to be true. That is, females exhibited a higher achievement need than males. The women with the highest achievement scores were those in the above 27 years old age group. This suggests that women, particularly those over 27 years old, are more concerned with achievement. This finding is counterindicated by the literature which states that both sexes are equally concerned with achievement (Stixx, 1966).

Hypothesis #3 was partially supported. Females did exhibit more depression and adjustment problems. Vincent (1970) found similar results which she explained as a result of the compound stress females with careers experience. In addition to the stress of normal day to day living, females with vocational interests experience a unique and intense stress over career-personal life conflicts. While this explanation may be valid, it must be considered in light of another effect which may also be active. These male-female differences may be partially accounted for by the females' tendency to more readily admit to personal problems (King, 1973). This suggests that some or all of the differences are artifactual.

The expected differences between males and females on

loneliness and marital satisfaction were not found. The
fact that there is no difference on the loneliness factor
is surprising, given the significant differences on depres-
sion and adjustment. The results concerning marital satis-
faction can be explained by research already conducted.
Clifford (1977) found the male-female dichotomy to be a
poor determinant of marital adjustment.

Since no differences between married and unmarried
students were found, hypotheses #4 and #5 were not sup-
ported. Previous research indicates that there is no dif-
ference on the frequency or intensity of emotional problems
for married vs. unmarried students (Clifford, 1977). The
indication is that the nature of the problem differs for
married and unmarried students (Stebbins, 1975). This
study was not aimed at discovering types of conflicts, only
whether or not one existed. Thus, the results of this
study are consistent with the results of the previous re-
search.

Hypothesis #6 was supported by the data. The young
marriages did exhibit more marital dissatisfaction. Those
individuals married less than two years also exhibited more
depression and adjustment problems. One of the reasons
that the younger marriages give signs of being more stressed
hinges on the fact that these individuals are quite often
young. As noted earlier, young graduate students have to
contend with a set of demanding adjustment problems. If
the young student is also married, the problems intrinsic

to the marital relationship must be dealt with in addition to the problems of youth. The young, married graduate student, especially those with children, are the most likely to experience a great deal of stress in their graduate career (Baird, 1976; Stebbins, 1975).

Hypothesis #7 dealt with the domicile effect. No significant results were found, so the hypothesis was not supported. The lack of significant results may be attributed to the fact that 93% of the students lived in Domicile Category I, i.e., a house or apartment.

Hypothesis #8 was not supported. Rather than problems increasing as distance from hometown increases, the findings indicate that as distance from hometown decreases problems increase. This was consistent for all scales except the Achievement scale, which was nonsignificant. The literature fails to indicate why such an effect would occur. It seems likely that a mediating variable which has a bearing on one's adjustment and one's willingness to move away from home would account for this effect. More will be said about this in the Implications section of this chapter.

Hypothesis #9, concerning yearly income, was not supported. The Interpersonal scale found significant differences between the income categories, but not where they were anticipated. Instead of the lowest income group having the highest score, those in the middle income group, $8000-12,000 per year, demonstrated the most problems in this area. Research which studied the effect of various levels

of income has found it to be a very poor indication of personal adjustment (Heilbrun, 1970). Indeed, finances are not considered by most college students to have much of an effect on psychological well-being (Vincent, 1970). For the most part, this study is in agreement with the previous findings. Four of the five variables measured were the same for all the income categories. The one significant result suggests no clear interpretation.

Detection of differences between the Hard and the Soft Sciences were not ascertainable, so hypotheses #10 and #11 were not supported. This does not mean that differences between the Hard and Soft Sciences do not exist. It simply means that there is no difference between them on the variables measured. This issue will be more appropriately and more fully discussed in the Implications section of this chapter.

Hypothesis #12 was not supported. The graduate students in terminal master's programs were found to be more depressed, lonely, and to experience more adjustment and marital problems. This is exactly the opposite of what was predicted. It was thought that since the terminal master's degree was less demanding in terms of time and academic requirements, it would be less stressful. Apparently, the workload of the degree is not an effective discriminator on those variables measured. The implication is that some other variable or variables account for these differences. The literature is sparse on this topic, and gives no indica-

tion as to what these variables might be.

Hypothesis #13 was not supported. Of those students in a four-year program, no differences were found between students above and below the half-way point. Research indicates that the longer one is in graduate school, the less intense the level of stress will be. This pattern may be found on all the variables measured in this study, although the effect failed to reach the significance level.

Those students with grade point averages (GPA's) ranking in the bottom one-third of the sample exhibited more loneliness than the other students, so hypothesis #14 was supported. This pattern is exactly what the research indicates. To do well in graduate work, a student must be able to supress personal problems and not let them interfere with performance (Kjerluff and Wiggens, 1973). When personal problems cannot be controlled, they interfere with performance and cause the individual to be less successful. An important point here is that the individuals in the top one-third of the GPA range may or may not have fewer problems than those in the bottom one-third. The point is that they will not admit as many problems and this is what the study found.

Those individuals with the highest GPA's also had the highest achievement scores. These data support hypothesis #15. This finding may be taken as an indication of the concurrent validity of the achievement scale. This scale does measure some factor which affects performance in gradu-

ate school.

Discussion of the Open-Ended Questions

Beck (1978) stated as many as one-fourth of the student population may be experiencing symptoms of depression at any point in time. The analysis of the open-ended questions certainly substantiates his statement. Thirty-eight percent of the graduate student population reported that they were experiencing interpersonal or emotional problems. The majority of these students either ignore the problem and hope it will go away, or they take a very stoic approach in an effort to out-last their problem. Very few students seek professional help.

Students may fail to seek professional help for two reasons. First, many students do not know what services are offered or where they are located. Over half the students could not name one university counseling service. If the students do not know the names of the facilities, it is even more unlikely that they know the specific services offered. Second, the negative stigma one can attach to mental illness and psychological counseling is very much a reality among graduate students. Many students are too frightened to consult a psychologist. As one student stated, "I don't have faith in psychologists, and so I probably wouldn't be willing to trust him/her/it." Still other students fear the embarrassment of having to live with "the stigma." This is what one student said. "It all goes down on "your

record' and all this confidential information sometimes gets out...which hurts your opportunities for jobs, etc."

Unfortunately, those who maintain these inaccurate beliefs will probably never seek counseling voluntarily, in spite of the fact that over 70% of the students who had been for counseling felt it was beneficial. Thus, a large number of graduate students cut themselves off from a relationship which has proven to be helpful to individuals in similar situations.

The responses to the last open-ended question brought about an unexpected finding. The responses to the previous questions indicated that only 8% of the students seek professional help, 60% had refused to seek help when they could have used it, and 41% would not go to a psychologist under the most extreme circumstances. Despite the negative bias against psychologists, the students' most frequent choice of who to turn to in times of trouble was the psychologist, 26%. The percentage of those who would seek a psychologist or a psychiatrist was 31%, a far greater percentage than that of any other category. It is unlikely that most of the students are aware of the inconsistency. These findings are most likely the result of compartmentalization. The two contradictory beliefs are never recognized as inconsisten because they are kept separate from each other.

Implication of Findings

The purpose of this study was to ascertain the psychological needs of the graduate student population and determine if these needs were being met. The data collected, especially the percentage of the graduate students experiencing an emotional or interpersonal problem (38%), indicates a high stress level among the graduate students. Emphasis should be put on the practical implications of these data in order to conduct counseling more effectively with graduate students and to develop remedial programs to meet the needs of graduate students as a whole.

The data collected suggest that graduate students who are young, female, or living close to home are most likely to experience psychological problems. The literature on graduate students fails to explain why such students are more susceptible to problems. It could be hypothesized that a mediating variable such as dependency could be responsible for the effect. Dependent undergraduates are often cited as the most likely to experience adjustment problems. This relationship has yet to be proven for graduate students.

The source of individual differences among graduate students is open to hypothesizing and further research. So, too, is the lack of differences, especially when expected. The literature on college students gives some indication that there should be differences among students when com-

paring across majors. This study found no such differences, which suggests that there are some stresses which transcend the field of study. The implication is that the structure and organization of the graduate college, the only factor so general as to affect all graduate students, may be the source of this general stress. Such factors as the graduate college's demands on the students, e.g., deadlines for comprehensive examinations or the necessity of a thesis and dissertation, and their influence on the interpersonal and role relationships between administrators, faculty, and students need to be investigated.

The overall results of this study demand action in two areas. First, further research should be conducted to determine what causes individual differences in the ability of graduate students to cope with stress and what sources of stress are most difficult for all graduate students. Second, practical action is required. The relationship between the graduate students and the campus counseling services should be improved. The initial effort should be directed at establishing better communication between the students and the campus agencies. Recall that over half the students did not even know the name of one of the campus counseling services. If the students do not know what agencies are on campus, they certainly do not know what services are available.

An educational campaign making use of the campus newspaper and the campus mail could be used to disseminate in-

formation about what services are available and the procedure and benefits of counseling. Also, representatives from the campus agencies could be sent to talk to graduate student organizations. This would permit face-to-face contact which could do much in the way of removing the negative stigma attached to counseling. Another advantage to such contact would be the possibility for graduate students to have input into alternative modes of treatment. Perhaps the students would want group counseling, stress workshops, or the opportunity to go off campus for counseling. The only way to know and meet the needs of the students is to actually have contact with the students.

The graduate student population is a special subgroup of the university, with their own unique needs. This study has identified those most likely to experience psychological problems. It is now time to discover the etiology of those problems and, in the meantime, meet the existing needs of the graduate students.

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APPENDIXES

APPENDIX A

STRATIFYING FACTORS

TABLE X

SEX X PROGRAM CLASSIFICATION
FOR THE GRADUATE COLLEGE

Sex	Special	M.A.	Ph.D.	Total	%
Male	287	991	663	1941	62%
Female	327	649	229	1205	38%
Total	614	1640	892	3146	100%
%	20%	52%	28%	100%	

TABLE XI

SEX X DEGREE PROGRAM FOR THE GRADUATE
COLLEGE AND THE SAMPLE

	Graduate Population				Sample			
Sex	M.A.	Ph.D.	Total	%	M.A.	Ph.D.	Total	%
Male	991	663	1654	65%	35	39	74	65%
Female	649	229	878	35%	27	13	40	35%
Total	1640	892	2532	100%	62	52	114	100%
%	65%	35%	100%		54%	46%	100%	

TABLE XII

DIVISION OF GRADUATE COLLEGE AND
SAMPLE BY FIELD OF STUDY

Science	Graduate College		Sample	
	Number	%	Number	%
Hard				
Biological	306	12%	19	17%
Physical	966	39%	39	35%
Soft				
Humanities	340	13%	12	11%
Social	923	36%	44	38%
Total	2535	100%	114	100%

APPENDIX B

DEFINING FIELDS OF STUDY

1. <u>Biological Sciences</u> - sciences dealing with living things, their structure and function.

2. <u>Physical Sciences</u> - sciences dealing with energy, non-living matter, and mathematics.

3. <u>Humanities</u> - the study of man and his culture.

4. <u>Social Sciences</u> - the study of man as an individual and as a group member.

Hard Sciences

Biological Sciences

Animal Breeding	Horticulture
Animal Nutrition	Microbiology
Animal Science	Natural Science
Biochemistry	Physiological Science
Bioenvironmental Engineering	Plant Pathology
Botany	Soil Science
Dairy Science	Veterinary Parasitology
Entomology	Veterinary Pathology
Environmental Science	Wildlife Ecology
Food Science	Zoology
Forest Resources	

Physical Sciences

Accounting	Crop Science
Agricultural Economics	Electrical Engineering
Agricultural Education	General Engineering
Agricultural Engineering	Geography
Agronomy	Geology
Business	Industrial Engineering and Management
Business Administration	
Business Education	Mathematics
Chemical Engineering	Mechanical Engineering
Chemistry	Physics
Civil Engineering	Statistics
Computer Science	

Soft Sciences

Humanities

Clothing and Textiles	Philosophy
English	Political Science
History	Speech
Housing	Technical and Industrial Education
Industrial Arts	

Social Sciences

Corrections
Curriculum and Instruction
Distributive Education
Economics
Educational Administration
Educational Psychology
Family Relations and Child
    Development
Food, Nutrition, and Insti-
    tutional Administration
Health, Physical Education,
    and Recreation

Higher Education
Home Economics
Home Economics Education
Mass Communications
Psychology
Rural Adult Education
Sociology
Speech Pathology
Student Personnel and
    Guidance
Technical Education
Vo-Tech and Career

APPENDIX C

QUESTIONNAIRE

Instructions

The survey to which you are about to respond is designed to assess quality of life among all graduate students presently attending OSU. Although some of the questions may be personal, it is not an attempt to pry into your personal life. Your responses will be used to make statements about the quality of life for graduate students in general.

You should be aware of the safeguards for your participation. First, your responses will remain confidential. These materials and your responses will be seen only by a psychology graduate student and a Ph.D. psychologist. Second, your participation is voluntary. You are free to choose not to participate or withdraw at any time.

Through your participation in this research effort it is possible that some of the stress factors explicit and implicit in a graduate student's life may be discovered. On the basis of these discoveries it is hoped that we can improve the quality of the graduate student's life. Thus, your participation is valuable and greatly appreciated.

As you look at the first page of the survey you will notice a request for your name, address, and telephone number. If you wish to remain anonymous feel free to omit this information. As for the remainder of the survey, carefully read and respond to all questions. The instructions and response formats change from one section to the next, so be sure you read and understand the instructions before answering the questions. Are there any questions? Please begin.

Release Form

I am aware of the fact that in responding to this survey I will be disclosing personal beliefs about myself. Furthermore, I am aware that my responses will remain confidential, i.e., only a psychology graduate student and a Ph.D. psychologist will view my responses. Furthermore, I am aware that my participation is voluntary and I may withdraw my participation at any time I see fit.

_____ I have read and understand the statement above and I am willing to participate.

_____ I have read and understand the statement above and I am not willing to participate.

_____ I would like a copy of the results of the study sent to me.

Name_____

Address_____

Date_____

Signed_____

Personal Information Form

Name_____ Telephone #_____

Address_____

Age_____ Sex_____ Date of Birth_____

Semesters of Graduate Study_____ # of Graduate Hours_____

Graduate GPA_____ Major_____

Degree Sought_____

Marital Status:

_____Married   _____Divorced

_____Single   _____Widowed

_____Separated

Length of time married_____

Number of children_____ Ages_____

Where do you live?

_____Dorm   _____With parents

_____Apartment or house   _____Other*

    *If you answered "other" specify where you live:

_____

Your yearly income (including loans, spouse's income, and
parental support):

_____$1000-4000   _____$8000-12,000

_____$4000-8000   _____$12,000 or more

How many miles is OSU from your hometown (i.e., where your
family and friends are)?

_____0-100 miles   _____250-500 miles

_____100-250 miles   _____over 500 miles

How often do you go home in a school year?_____

GLS

Instructions: The following statements describe how graduate students think, feel, and act in a variety of situations. Indicate the extent to which the item is typical of the way you think, feel, and act by placing one of the following numbers in the space provided:

7 - strongly agree
6 - agree
5 - mildly agree
4 - undecided
3 - mildly disagree
2 - disagree
1 - strongly disagree

Note: Some of the statements assume you are married. Only respond to these statements if you are "legally" married, i.e., you must have a marriage license (this excludes all common law marriages without such a license). If you are not "legally" married, leave these responses blank.

_____1. I have no one I could go to in times of trouble.

_____2. It's okay for me to do just enough to get by in all my classes.

_____3. To have a good relationship with my classmates, I must have grades equal to or better than theirs.

_____4. I have one good friend I can call my best friend.

_____5. Even if I was independently wealthy, I would still want to go to graduate school.

_____6. Often I find myself becoming angry over petty things.

_____7. I'm different from most normal people.

_____8. My spouse and I rarely quarrel.

_____9. I rarely feel all alone and isolated.

_____10. The one thing I lack is a really strong, secure love relationship with someone.

_____11. I must make "A's" in all my classes.

_____12. I would not be concerned if I made a "C" in one of

my courses.

_____13. Sometimes I think I drink a little too much.

_____14. I think right now is the happiest time of life.

_____15. I am satisfied with my performance in graduate school up to this point.

_____16. I am a good spouse.

_____17. I feel unhappy when my score on a test is lower than I expected.

_____18. Making "A's" in my classes isn't enough, I should be ranked number one in at least one of my classes.

_____19. I don't know many people with whom I can share my special interests.

_____20. I feel I am a well-adjusted individual.

_____21. I have no one I could go to in times of trouble.

_____22. For the most part, I don't relate well to others.

_____23. I often refuse to relax if I know it will interfere with my school work.

_____24. I have as many friends as I could possibly want.

_____25. I've often had problems which I kept to myself because I couldn't find anyone with whom I could discuss it.

_____26. Others may think I have a good marriage, but I know that it's only a front.

_____27. If I died today, I would feel my life has been very worthwhile.

_____28. My spouse is satisfied with our relationship.

_____29. I have enough time to dedicate to both my marriage and my academic career.

_____30. My life right now is not satisfying.

_____31. I feel the one thing that makes my marriage work is the effort by my spouse and I to keep up communication between us.

_____32. I have one good friend I could count on in just about any situation.

_____33. My spouse understands and accepts the fact that I have very demanding academic obligations.

_____34. I tend to worry about things a lot.

_____35. Right now I don't feel depressed at all.

_____36. I am a good spouse.

_____37. I am very happy with my marriage.

_____38. Often I feel all alone and isolated.

_____39. My marriage is marked by disturbing quarrels.

_____40. I am very confident about myself.

_____41. One of my goals in any course is to miss as few as possible points on all the tests.

_____42. Sometimes I cry and I don't know why.

_____43. I frequently feel guilty while studying because I am ignoring my marital obligations.

_____44. Right now I don't feel depressed at all.

_____45. I must make "A's" in all my classes.

BDI

Instructions: On this questionnaire there are a number of groups of statements. You are to read all the statements in a group and circle the number corresponding to the one statement that best describes the way you feel today, that is, right now. Remember, read all the statements in a group before choosing the one that best describes you.

A.
- 0   I do not feel sad
- 1   I feel blue or sad
- 2a   I am blue or sad all the time and I can't snap out of it
- 2b   I am so sad or unhappy that it is quite painful
- 3   I am so sad or unhappy that I can't stand it

B.
- 0   I am not particularly pessimistic or discouraged about the future
- 1a   I feel discouraged about the future
- 2a   I feel I have nothing to look forward to
- 2b   I feel that I won't ever get over my troubles
- 3   I feel that the future is hopeless and that things cannot improve

C.
- 0   I do not feel like a failure
- 1   I feel I have failed
- 2a   I feel I have accomplished very little that is worthwhile or that means anything
- 2b   As I look back on my life all I can see is a lot of failures
- 3   I feel I am a complete failure as a person (parent, husband, wife)

D.
- 0   I am not particularly dissatisfied
- 1a   I feel bored most of the time
- 1b   I don't enjoy things the way I used to
- 2   I don't get satisfaction out of anything any more
- 3   I am dissatisfied with everything

E.
- 0   I don't feel particularly guilty
- 1   I feel bad or unworthy a good part of the time
- 2a   I feel quite guilty
- 2b   I feel bad or unworthy practically all the time now
- 3   I feel as though I am very bad or worthless

F.
- 0   I don't feel I am being punished
- 1   I have a feeling that something bad may happen to me
- 2   I feel I am being punished or will be punished
- 3a   I feel I deserve to be punished
- 3b   I want to be punished

G.

   0   I don't feel disappointed in myself
   1a   I am disappointed in myself
   1b   I don't like myself
   2   I am disgusted with myself
   3   I hate myself

H.

   0   I don't feel I am any worse than anybody else
   2   I am critical of myself for my weaknesses or mis-
          takes
   2   I blame myself for my faults
   3   I blame myself for everything bad that happens

I.

   0   I don't have any thoughts of harming myself
   1   I have thoughts of harming myself but I would not
          carry them out
   2a   I feel I would be better off dead
   2b   I feel my family would be better off if I were dead
   3a   I have definite plans about committing suicide
   3b   I would kill myself if I could

J.

   0   I don't cry any more than usual
   1   I cry more now than I used to
   2   I cry all the time now. I can't stop it
   3   I used to be able to cry but now I can't cry at all
          even though I want to

K.

   0   I am no more irritated now than I ever am
   1   I get annoyed or irritated more easily than I used
          to
   2   I feel irritated all the time
   3   I don't get irritated at all at the things that
          used to irritate me

L.

   0   I have not lost interest in other people
   1   I am less interested in other people now than I
          used to be
   2   I have lost most of my interest in other people
          and have little feeling for them
   3   I have lost all my interest in other people and
          don't care about them at all

M.

   0   I make decisions about as well as ever
   1   I try to put off making decisions
   2   I have great difficulty in making decisions
   3   I can't make any decisions at all any more

N.

   0   I don't feel I look any worse than I used to
   1   I am worried that I am looking old or unattractive
   2   I feel that there are permanent changes in my ap-
          pearance and they make me look unattractive
   3   I feel that I am ugly or repulsive looking

O.

0   I can work about as well as before
1a   It takes extra effort to get started at doing
        something
1b   I don't work as well as I used to
2   I have to push myself very hard to do anything
3   I can't do any work at all

P.

0   I can sleep as well as usual
1   I wake up more tired in the morning than I used to
2   I wake up 1-2 hours earlier than usual and find it
        hard to get back to sleep
3   I wake up early every day and can't get more than
        5 hours sleep

Q.

0   I don't get any more tired than usual
1   I get tired more easily than I used to
2   I get tired from doing anything
3   I get too tired to do anything

R.

0   My appetite is no worse than usual
1   My appetite is not as good as it used to be
2   My appetite is much worse now
3   I have no appetite at all any more

S.

0   I haven't lost much weight, if any, lately
1   I have lost more than 5 pounds
2   I have lost more than 10 pounds
3   I have lost more than 15 pounds

T.

0   I am not more concerned about my health than usual
1   I am concerned about aches and pains or upset
        stomach or constipation
2   I am so concerned with how I feel or what I feel
        that it's hard to think of much else
3   I am completely absorbed in what I feel

U.

0   I have not noticed any recent change in my interest
        in sex
1   I am less interested in sex than I used to be
2   I am much less interested in sex now
3   I have lost interest in sex completely

Briefly respond to the following questions:

1. Are you presently experiencing an emotional or interpersonal problem?

    How are you dealing with it?

2. How have you dealt with emotional crises in the past? (it might be helpful to think of an example.)

3. If you had a problem you felt you couldn't handle alone would you see a psychologist?

    Why or why not?

4. Have you ever gone for counseling?

    Where?

    What was the problem?

    Were you helped?

5. Have you ever had a problem you could have used professional help on but didn't seek it?

    Why?

6. If you needed help who would you go to?

7. List any university facilities you are aware of which offer psychological counseling.

Debriefing

The preceeding survey was designed to assess the quality of life among graduate students at OSU. Of specific interest were factors leading to stress and depression. The data collected is for research purposes, so your name and your responses will remain confidential.

If you have any questions about the survey, feel free to contact me - my name and my number are listed below. As it sometimes occurs, a survey like this may serve as the trigger for intense introspection. Please be aware that there are services on campus that can provide qualified help. Two services are listed below, call them if you wish.

Psychological Services Center   624-5990
N. Murray Hall

Bi-State Mental Health Clinic   624-7007
OSU Student Hosp.

Matt Ferrara   624-7539

APPENDIX D

GRADUATE LIFE SURVEY

TABLE XIII

GLS: SCALE BY ITEM NUMBER

Scale	Item Number										
Achievement	2	3	5	11	12	15	17	18	21	41	45
Interpersonal	1	4	9	10	19	21	22	24	25	32	38
Adjustment	6	7	13	14	20	30	34	35	40	42	44
Marriage	8	16	26	28	29	31	33	36	37	39	43

TABLE XIV

GLS: CONSISTENCY MEASURES

Duplicate Items

    (1,21)   (35,44)   (11,45)

Reversed Items

    (2,18)   (11,12)   (1,32)   (4,10)   (14,30)

    (8,39)   (21,32)   (9,38)   (12,45)   (16,36)

TABLE XV

TABLE OF CORRELATION COEFFICIENTS AND
LEVELS OF SIGNIFICANCE FOR
THE BDI AND THE GLS

Factor	BDI	Ach	Int	Adj	Mar
BDI	1.00	.18	.39	.63	.46
Sign. level	.00	.05	.0001	.0001	.0003
Ach	----	1.00	.07	.24	.03
Sign. level	----	.00	.48	.01	.82
Int	----	----	1.00	.53	.55
Sign. level	----	----	.00	.0001	.0001
Adj	----	----	----	1.00	.35
Sign. level	----	----	----	.00	.007
Mar	----	----	----	----	1.00
Sign. level	----	----	----	----	.00

APPENDIX E

RESPONSES TO OPEN-ENDED QUESTIONS

TABLE XVI

ANALYSIS OF OPEN-ENDED QUESTIONS
FOR SELECTED BLOCKING
VARIABLES

	I		II	III		IV		V		VI	VII
Factor	A	B		A	B	A	B	A	B		
Age											
LE 27	1.46	2.23	2.25	1.44	4.23	1.70	1.28	1.88	1.88	3.90	0.89
GT 27	1.16	2.20	1.87	1.32	4.29	1.51	1.18	1.90	1.90	4.06	0.71
Sign. level	.001	.96	.28	.26	.83	.09	.44	.95	.95	.70	.44
Sex											
Male	1.31	2.29	2.05	1.72	4.26	1.14	1.52	1.52	1.46	3.70	0.69
Female	1.54	2.16	2.36	1.49	1.35	2.22	2.22	1.28	4.21	4.38	1.15
Sign. level	.02	.66	.22	.02	.11	.06	.06	.06	.85	.07	.07
Major											
Soc. Sciences	1.44	2.24	2.11	1.30	4.33	1.47	.135	1.98	1.98	4.30	1.53
Humanities	1.17	3.00	1.56	1.33	4.40	1.58	1.20	2.00	2.00	3.92	0.33
Bio. Sciences	1.37	2.20	2.14	1.42	4.26	1.84	1.00	1.14	1.14	4.21	0.47
Phys. Sciences	1.38	2.13	2.28	1.54	4.09	1.77	1.10	2.30	2.30	3.42	0.41
Sign. level	.40	.65	.31	.17	.81	.006	.29	.28	.28	.20	.0001
Science											
Hard	1.38	2.14	2.30	1.50	4.15	1.79	1.07	1.82	1.82	3.68	0.43
Soft	1.38	2.32	2.00	1.31	4.34	1.49	1.32	1.93	1.93	4.22	1.27
Sign. level	.98	.55	.21	.04	.41	.0007	.04	.79	.79	.14	.0001
Year											
First	1.35	2.55	2.07	1.52	4.07	1.65	1.27	2.15	2.15	3.53	0.58
Second	1.54	2.29	2.48	1.26	4.47	1.65	1.23	2.14	2.14	4.31	0.91
Third	1.38	1.71	2.00	1.52	3.89	1.71	1.33	1.00	1.00	4.15	0.52
Fourth	1.19	2.00	1.89	1.38	4.44	1.58	1.17	1.69	1.69	3.85	1.31
Sign. level	.05	.25	.29	.11	.23	.81	.88	.24	.24	.43	.05

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TABLE XVI (Continued)

Factor	I A	I B	II	III A	III B	IV A	IV B	V A	V B	VI	VII
Marital Status											
Married	1.46	2.30	2.24	1.54	1.43	1.32	4.36	1.96	1.96	4.07	0.94
Unmarried	1.30	2.12	2.07	1.75	1.12	1.39	4.13	1.80	1.80	3.83	0.75
Sign. level	.09	.51	.47	.02	.11	.70	.31	.67	.67	.50	.36
Length Married											
LE 2 years	1.40	2.00	2.23	1.68	1.24	1.00	4.08	2.00	2.00	3.29	0.72
GT 2 years	1.25	2.22	1.88	1.75	1.30	1.47	4.23	1.60	1.60	4.25	0.75
Sign. level	.23	.59	.31	.56	.08	.06	.71	.46	.46	.09	.91

APPENDIX F

PREDICTION AND REGRESSION

TABLE XVII

PREDICTION OF DEPENDENT VARIABLES
USING REGRESSION

Criterion Variable	Predictor Variable(s)	R^2	p	N
BDI^1	$B_o^*+(Adj)$	.40	.0001	110
BDI^2	$B_o+(Adj+Mar)$	.39	.0001	58
Ach^1	$B_o+(Adj)$	.05	.02	110
Ach^1	$B_o+(Sex)$	.07	.01	96
Int^1	$B_o+(Adj)$	.30	.0001	96
Int^1	$B_o+(Adj+GPA)$	.34	.0001	96
Int^2	$B_o+(Adj+Mar)$	.39	.0001	58
Int^2	$B_o+(Mar)$	.29	.0001	58
Adj^1	$B_o+(BDI)$	.40	.0001	110
Adj^1	$B_o+(BDI+Int)$	.50	.0001	96
Adj^1	$B_o+(BDI+Int+Miles)$	.53	.0001	96
Adj^1	$B_o+(BDI+Int+Miles+GPA)$	.55	.0001	96
Mar^2	$B_o+(Int)$	.30	.0001	58
Mar^2	$B_o+(Int+Degree)$	.37	.0001	53
Mar^2	$B_o+(Int+BDI)$	.36	.0001	58

*B_o is the symbol used to denote the intercept.

[1]This equation predicts for married and unmarried students.

[2]This equation predicts for married students only.

APPENDIX G

TREND ANALYSIS

TABLE XVIII

TREND ANALYSIS FOR DEPENDENT VARIABLES

Miles by:	Probability
BDI	
linear	.007
quadratic	.67
Int	
linear	.006
quadratic	.67
Adj	
linear	.0001
quadratic	.72
Mar	
linear	.05
quadratic	.23

GPA by:	
Ach	
linear	.07
quadratic	.76
Int	
linear	.008
quadratic	.06

VITA

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Master of Science

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Major Field: Psychology

Biographical:

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Education: Graduated from Jesuit College Preparatory School, Dallas, Texas, in May, 1972; graduated from the University of Texas at Austin with High Honors and Special Honors in Psychology, receiving a Bachelor of Arts degree in May, 1976; enrolled in the Master of Science degree program at Oklahoma State University in August, 1977; completed requirements for the Master of Science degree at Oklahoma State University in July, 1979.

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