

DOCUMENT RESUME

ED 340 581

CG 024 960

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 TITLE Study Behaviors of Undergraduate and Graduate Students.
 PUB DATE 29 Apr 93
 NOTE 94p.; Master's Thesis, Fort Hays State University.
 PUB TYPE Dissertations/Theses - Masters Theses (042)

EDRS PRICE MF01/PC04 Plus Postage.
 DESCRIPTORS *Graduate Students; Higher Education; *Student Behavior; *Study Habits; Study Skills; *Undergraduate Students

ABSTRACT

This study was conducted to investigate study behaviors of undergraduate and graduate college students at Fort Hays State University, Kansas, Undergraduate (N=93) and graduate (N=46) students completed the Study Behavior Inventory, Form D (SBI-D) and a demographic questionnaire that examined age, gender, academic major, college classification, cumulative undergraduate grade point average (GPA), average hours studied per week, average hours worked per week, if the subject had ever been on academic probation, if the subject was a community college transfer student, if the subject was involved in organized college athletics, and the subject's greatest difficulties in studying. The findings revealed that 12 of 16 main effects comparisons were statistically significant. The results for statistically significant main effects revealed that students with cumulative GPAs of 3.01-4.00 had a higher mean score for the SBI-D factors of Feelings of Lack of Competence, Low Security, Poor Self-Esteem, and Long Range Academic Tasks, and a higher mean Total Score than did students with lower GPAs. Sophomores and graduate students had a higher mean score for Preparing for Day-to-day, Routine Academic Activities than did seniors. Females had a higher mean score for Carrying Out Specific Long Range Academic Tasks and a higher mean Total Score than did males. Graduate students had a higher mean score for Feelings of Lack of Competence, Low Security, Poor Self-Esteem, and a high mean Total Score on the SBI-D than did seniors. (The instrument is appended; document contains 15 references.) (NB)

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STUDY BEHAVIORS OF UNDERGRADUATE AND GRADUATE STUDENTS

being

A Thesis Presented to the Graduate Faculty
of the Fort Hays State University in
Partial Fulfillment of the Requirements for
the Degree of Master of Science

by

Jana R. Howard

B.S., Fort Hays State University

Date 4-29-93

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Graduate Committee Approval

The Graduate Committee of Jana R. Howard hereby approves her thesis as meeting partial fulfillment of the requirements for the Degree of Master of Science.

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Acknowledgements

I have reached a victorious milestone in my life and have plenty of people to thank. I would like to thank my thesis committee of Dr. Guss, Dr. Stansbury, and Dr. Cox for their input and support. An extended gratitude is given to Dr. Daley who helped me "keep my ducks in line" throughout the past five months.

A big thanks goes to Jodi Cox who kept me laughing when I wanted to cry. I also appreciate all the hours Judy Pape shared to help me set up my thesis on the computer. I would also like to thank Dr. Stehno and Dr. Slattery for their support this past year.

My biggest appreciation goes to my family who have supported me in everything I have done. I could never have made it through the past six years without their encouragement.

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Abstract

The purpose of the researcher was to investigate study behaviors of undergraduate and graduate students. The independent variables investigated were college classification, gender, cumulative undergraduate G.P.A. , and average hours studied per week. The dependent variables were Feelings of Lack of Competence, Low Security, and Poor Self-esteem; Preparing for Day-to-Day, Routine Academic Activities; Carrying Out Specific Long Range Academic Tasks; and Total Scale. The Sample consisted of 59 males and 81 females.

Four composite null hypotheses were tested, employing a three-way analysis of variance (general linear model). A total of 56 plus 56 recurring comparisons were made. Of the 56 comparisons 16 were for main effects and 40 were interactions. Of the 16 main effects, 12 were statistically significant at the .05 level. Of the 40 interactions, 3 were statistically significant at the .05 level.

Introduction

Overview:

Bliss and Mueller (1987) distinguished between study behaviors and study skills. Their definition of study behavior was "what students actually do" (p. 16). This may be contrasted to study skills which were defined as tasks students are capable of doing. Bliss and Mueller then generalized these definitions to mean "study skills are the potentials for action, whereas study behaviors are the observed actions" (p. 16). Thus students are not likely to exhibit appropriate study behaviors if they do not possess the necessary skills.

Barron, McCoy, Cuevas, Cuevas, and Rachel (1983) defined study skills as "those learner selected objectives, strategies and habits that facilitate independent learning" (p. 329). The authors described the major concepts of their definition in greater detail. They divided learner selected objectives into three components: attitude or motivation of learner, task identification and analysis, and goal setting. The different types of strategies mentioned were using book parts (table of contents, bibliography, glossary, and references); using geographic aids; evaluating information, finding the main idea, validity of information, and author's view point; and study techniques. They also enlarged on concepts of study techniques and habits. Study techniques were activities developed to aid retention, organization, and reporting information. Habits were described as a predisposition of certain attitudes, skills, and procedures to

learning. Habits were divided into four categories: mind set, self-evaluation, process, and organization.

Weigel and Weigel (1967) administered the Survey of Study Habits and Attitudes (SSHA) to 145 undergraduate students enrolled at Oregon State University. They administered the instrument under two different directions. The first was real instructions which directed participants to rate themselves on their actual study habits and attitudes. The second instructions were ideal. The students were told to respond how they perceived an ideal student would respond. An ideal student was described as one with excellent study habits and attitudes.

The mean ideal score was at the 94th percentile. Therefore, Weigel and Weigel concluded college students had appropriate knowledge of study habits and attitudes, but did not maximize them while studying. College students in general know how to study but do not necessarily employ this knowledge. Weigel and Weigel's findings cast "serious doubt for general study skills courses focusing on the teaching of this sort of information" (p. 79). Thus, students who have ineffective habits would benefit from being taught specific skills and those with effective habits would benefit from motivational remediation.

Fontana, Simon, Ward, and Williams (1986) reported students did not use effective study habits despite understanding the need. They also maintained students not only need information about study skills but also practice in their

use. Even though teachers and counselors can effectively teach study skills to students, they cannot force them to apply these skills to their course work (Bliss & Mueller, 1987).

Michaels and Miethe (1989) maintained good study habits typically include a maximum noise-free environment, rewriting lecture notes, having a specific study routine, and study throughout the week. The results of their research indicated studying with minimal noise was significantly associated with higher grades. Thus, "quality of effort is a more complex attribute than quantity of effort." (p. 318) They also noted study skills, such as attention or concentration, association, organization or encoding, and reflection, need to be considered. Study skills neither fit into this category of effort nor can they be measured by aptitude tests. Differences in these skills explained more variation in grades than study time, study habits, or class attendance.

Hogan and Hendrickson (1984) collected data on students' study habits, patterns, and problems. They categorized the different activities students do while studying. The students' most frequent responses were reading textbooks, reviewing lecture notes, writing term papers, outside reading assignments, library research, and working in a laboratory.

History of Study Skills and Habits Inventories

The first published instrument attempting to measure study behaviors of college and university students was the Study Habit Inventory (SHI). The SHI

was developed by Wren (1941, cited by Bliss and Mueller, 1986). The SHI measured general study attitudes and behaviors, reading and note taking techniques, and strategies in preparation for examinations.

Bliss and Mueller (1987) stated "following World War II emphasis shifted to the formal study of reading speed and comprehension. Reading experts largely executed the examinations of study behaviors because it was largely a reading problem." (p. 14) Any issues besides reading skills were considered to be caused by lack of motivation.

In 1966 Brown and Holtzman (cited by Bliss and Mueller, 1987) composed the Scale of Study Habits and Attitudes, Form C (SSHA). The SSHA measures four basic aspects of study habits and attitudes. The areas were delay avoidance, work methods, teacher approval, and education acceptance. The SSHA is recognized as one of the best instruments because of its attitudinal and factorial loading. Also, it has a relative low correlation with measures of scholastic aptitude. The instrument can be administered with two different instructions: real and ideal. Real instructions have students answer how they perceive their own study habits. Ideal instructions have students answer the SSHA as they perceive an ideal student.

The Study Behavior Inventory, Form B (SBI-B) was developed by Muller and Gibson in 1982 (cited by Bliss and Mueller, 1986). The SBI-B combined statements from Wren's SHI and Brown and Holtzman's SSHA. The authors

expanded form B by adding statements on test-anxiety and coping behaviors to develop form C.

The SBI-C was administered by Mueller and Gibson in 1983(cited by Bliss & Mueller, 1986) to over 3,000 students enrolled at a community college in Chicago. The scores showed high correlation coefficients with subjects' high school and college GPA. The researchers developed form D after this study. The SBI-D expanded the section on general study attitudes and decreased items on reading skills and note taking techniques. The three factors were feelings of low-security and poor self-esteem; preparation for routine, day-to-day academic activities; and planning and carrying out specific, long range academic tasks. Bliss and Mueller suggested that before the SBI-D can be used to screen students for appropriate study behaviors, norms need to be established for scores on the entire instrument and the three factors.

Determiners of Study Behaviors

Perspetion of Family. Lin, Elder, and La Counte (1987, cited by Lin, 1990) studied approximately 4,000 students attending a predominantly caucasian four year college in Montana. The authors compared academic performance of American Indians and White students from families perceived as modern or traditional. They reported that unequal performance between minority and white students rested on cultural differences in the home environment. In past studies it was suggested that the under-performance of disadvantaged minority students

was caused by lack of rich and stimulating environments. Therefore, disadvantaged minority students are not only materially deprived but are likely to be culturally deprived as well.

Another purpose of the research conducted by Lin et al. (1987, cited by Lin, 1990) was to examine the perception of family background and selected characteristics of students. Students were asked to rate their parents. The ratings were used to determine if the family was modern or traditional. Modern families were more permissive and child-centered. They also had free expression of affection. The modern parents were more supportive and encouraging towards education. The researchers found the more educated the parents, especially the female, the more modern the family. The research results indicated children from better educated families (modern) did more poorly than those from less educated families. Children from modern families were not willing to sacrifice what was needed to achieve their goals. Also, they did poorer academically as indicated by lower GPA's. The environment provided within families seemed important to students performance in school.

Traditional families were more authoritarian, parent-centered, and focused more on discipline. Students from these families perceived themselves as self-starters and were willing to learn from others. They also had higher GPA's and spent more time studying than modern students.

Schooling. Schwartz (1986) noted the development of good study habits

did not begin in high school. A study skills course should be required before high school and followed by a remedial course at the high school sophomore level.

For example, Annis and Annis (1982) administered a Study Technique Questionnaire to 286 sixth through eighth graders, 329 tenth through twelfth graders, and 299 college students. The questionnaire stated: What study technique(s) would you apply when reading a fairly long article? The results indicated that as grade level increased the number of study techniques also increased. The response read only was the most frequently mentioned by students in grades six through eight. Read only dropped in popularity in grades ten through twelve but was still the number one response. Read only dropped tremendously as a response by college students. The drop in read only response was caused by the more complex material used with older students. Note taking and underlining became a more common response because students had to become involved. Annis and Annis maintained note taking served two functions. One function was encoding "in which the material to be learned is transformed into personally meaningful form, and an external memory function is useful for later review." (p. 203)

Schwartz (1986) surveyed teachers, high school students, and their parents inquiring about students' study skills, habits, and attitudes. Most participants showed a strong interest in a study habits and skills course. Students seemed to realize they lacked appropriate study skills and wanted to

improve. Freshmen did significantly better on reading assignments, taking notes more frequently, and better use of the library, while sophomores and juniors tended to use their notes more frequently for studying.

Students (57%), teachers (96%), and parents (81%) wanted a course to help students work towards their ability and improve academically. The course should offer a counseling component dealing with self-esteem. The curriculum should focus on study habits, skills, attitudes, responsibility, motivation, peer-pressure, and communication skills. The study skills mentioned were using and taking notes, use of books, how to prepare for tests, and time management.

Study Skills Courses. Bliss and Mueller (1987) suggested students were often placed in college developmental education programs based on high school grades, admission tests, and placement test scores. Students were placed in these courses because they did not show appropriate study behaviors. These courses were designed to develop study skills such as note taking, examination techniques, and time management. Bliss and Mueller (1986) maintained study skills programs would benefit from a strong counseling component focusing on short term, routine goals and long term, specific goals. The counselor should focus on students' feelings of competence and self worth.

Entwisle (1960, cited by Weigel & Weigel, 1967) described the content of study skills courses as varying from active teaching of study mechanics, through supervised practice in specific course material, to individual counseling.

Academic success was measured to determine if study skills courses were effective. He concluded study skills courses were usually followed by academic success and gains were not related to course content. Weigel and Weigel (1967) noted 90 percent of United States colleges offered study skills courses, with 10 percent requiring incoming freshmen to take a study skills course.

Friedlander (1980) did a comprehensive survey of a random sample of students involved with Extended Opportunity Program and Services (EOPS). EOPS was designed to help students with linguistic, economic, social or educational disadvantages. The following information was collected: self ratings of academic and personal skills; whether they participated in support programs: e.g., personal or career counseling, tutoring classes to improve academic skills, or special English courses; and satisfaction with their college work. The purpose of the researcher was to find if students with below average skills would take advantage of support programs. Friedlander's data indicated the following:

the smallest differences in the use of college support services between high- and low- ability students were in those areas most directly related to improvement of academic skills (tutoring, study skills courses, and English language courses); and less than 25 percent of the low- ability students sought assistance from an academic related support program. (p. 25)

He found high-risk students failed to take advantage of the developmental education programs when they were voluntary. Therefore, students did not

improve their study behaviors even when the opportunity was available.

Friedlander suggested two solutions for helping students with inadequate study skills and habits. First, high-risk students would be required to participate in comprehensive compensatory programs or be placed in remedial courses, even though some high-risk students felt isolated from other college students when placed in a remedial course. Second, the program staff would go to the students and work closely with them to help develop confidence in their learning skills. Collins (1972, cited by Friedlander, 1980) agreed that high-risk students want guidance regarding academic skills and career planning but may not have the confidence or know-how to seek help. Friedlander found that high-risk students with confidence in their academic abilities were more likely to join campus programs, participate in support services, and seek assistance to improve their study skills than those high-risk students with less confidence in their academic abilities.

The University of Toledo Counseling Center developed Athletes Educational Planning Program (AEPP) which initially focused on traditional study skills (Whitner & Altman, 1986). AEPP was a voluntary program for incoming freshmen athletes. Nine different study skills were emphasized. Whitner and Altman had participants provide feedback on the program. The responses were in favor of the educational material, group approach, and group leaders. There were three sessions that students did not think were helpful: relaxation exercises,

study with textbook, and reading and writing.

Cone and Owens (1991) administered a multitest orientation inventory to 250 incoming freshmen. Through their research they found that students who took the study skills course performed better academically over the first semester. The researchers determined a freshman study skills and college adjustment course can enhance their academic achievement.

College Classification and Study Time

Michaels and Miethe (1989) found freshmen and sophomores were more conscientious about study habits than upperclass students. The difference could be due to upperclass students develop appropriate study habits or short-cuts to reduce study time. Michaels and Miethe maintained that study time influenced grades among freshmen and sophomores, but had no significant impact on the grades of juniors and seniors.

Gender

Weigel and Weigel (1967) surveyed 106 male and 139 female undergraduate students. The subjects were given the Scale of Study Habits and Attitudes under two different instructions: real and ideal. Real was how students perceived their own study habits, while ideal was how they perceived a person with excellent study skills. The mean ideal score was greater than the mean real score for both males and females. Upperclass males and females had higher real scores than sophomores. This which indicated study skills were improved as

students progressed through college. Freshmen scores did not differ significantly from those of the other college classifications. There was no statistically significant difference between male and female ideal scores. The results indicated students were aware of appropriate study habits while freshmen, and their awareness did not decrease as they progressed through college.

Study Time and GPA

Michaels and Miethe (1989) were interested in the relationship between study time and GPA after subjects were grouped according to study habits, high school performance, college classification, and academic major. Study time had a significant impact on grades with freshmen and sophomores, but had no significant impact on juniors and seniors.

Michaels and Miethe determined that grades varied according to two types of study habits: crammers and non-crammers. Non-crammers were students who studied throughout the week. Crammers were students who procrastinated and studied just before a test. It was determined non-crammers gained from attending class and hours studied. People who crammed were not affected by either class attendance or study time. They maintained students perception of good grades and educational aspirations had a significant impact on students' GPA. External pressure of maintaining good grades and perceived value of high grades may also influence students study time and GPA.

Frisbee (1984) concluded from his research that university course grades reflected the influences of numerous factors including student aptitude, student effort, course structure, and departmental grading biases. Student effort was defined by Schuman and Walsh (1985) as the quantity or amount of studying or other course preparation that college students do, as distinct from the quality of the work as it might be assessed through aptitude measures.

Hogan and Hendrickson (1984) studied adult college students (25 years of age or older) who were currently sophomores or juniors compared to younger sophomores and juniors at Wisconsin-Greenbay. Hogan and Hendrickson were studying the affects of study time and GPA. Results indicated that adult students studied slightly more (3.2 hours per day compared to 2.9 hours) and had higher GPA's (3.2 compared 2.8). While this provided information to conclude age and grades were related, Hogan and Hendrickson were unable to determine if adults had higher GPA's because they studied more, or if other variables were involved.

Summary

There are several reasons a study pertaining to study behaviors of undergraduate and graduate students should be conducted. The researcher found inconclusive an outdated literature. Also the study would provide teachers, counselors, and advisors on which study skills students need to improve.

Statement of the Problem

The purpose of the researcher was to investigate study behaviors of undergraduate and graduate college students.

Rationale and Importance of the Research

A knowledge of study behaviors is important for teachers and counselors. Bliss and Mueller (1987) maintained teachers and counselors can effectively teach study skills but cannot force students to apply these skills. Counselors and teachers need to be aware of different study skills and behaviors which students need to improve. Counselors, with the help of reading teachers, could provide group counseling sessions pertaining to appropriate study behaviors. Throughout these sessions students could make a homework tracker and/or a behavior contract specifying at least one particular study behavior they will try to master.

There are several reasons a study of this nature needs to be conducted. One reason is that the researcher found limited and inconclusive literature discussing study behaviors of undergraduate and graduate students. Most of the literature the researcher found was dated. The study would provide information pertaining to which study behaviors undergraduate and graduate students need to improve.

The results of this study could be used to provide information to teachers, professors, counselors, or advisors. The results of the Study Behavior Inventory, Form D could enhance teacher's and professor's awareness on areas

of improvement needed during earlier education. The results could assist these people in improving study skills and study behaviors in their students.

Results of the present study provided information pertaining to the following questions:

1. Is there an association between college classification and scores obtained from the Study Behavior Inventory, Form D (SBI-D)?
2. Is there an association between gender and scores obtained from the SBI-D?
3. Is there an association between cumulative undergraduate GPA and scores obtained from SBI-D?
4. Is there an association between average hours studied per week and scores obtained from SBI-D?

Composite Null Hypotheses

All hypotheses were tested at the .05 level.

1. The differences among mean scores from the Study Behavior Inventory, Form D, for college students according to classification, gender, and cumulative undergraduate GPA will not be statistically significant.
2. The differences among mean scores from the Study Behavior Inventory, Form D, for college students according to classification, gender, and average hours spent studying will not be statistically significant.
3. The differences among mean scores from the Study Behavior

Inventory, Form D, for college students according to classification, cumulative undergraduate GPA, and average hours spent studying will not be statistically significant.

4. The differences among mean scores from the Study Behavior Inventory, Form D, for college students according to gender, cumulative undergraduate GPA, and average hours spent studying will not be statistically significant.

Independent Variables and Rationale

The following independent variables were investigated: college classification, gender, cumulative undergraduate GPA, and average hours spent studying per week. The researcher chose these variables because the research results pertaining to them seemed inconclusive and outdated.

Definition of Variables

Independent Variables:

All independent variables were self reported on a demographic sheet.

The following independent variables were investigated:

(1) college classification-five levels,

level 1, freshmen,

level 2, sophomores,

level 3, juniors,

level 4, seniors, and

- level 5, graduate students;
- (2) gender-two levels,
 - level 1, male, and
 - level 2, female;
- (3) cumulative undergraduate grade point average-levels determined post hoc,
 - level 1, 0.00-2.50,
 - level 2, 2.51-3.00, and
 - level 3, 3.01-4.00,
- (4) average hours spent studying per week- levels determined post hoc,
 - level 1, 0-5,
 - level 2, 6-10, and
 - level 3, 11+

Dependent Variables:

The dependent variables were scores from the following scales of the Study Behavior Inventory, Form D:

- (1) Feelings of Lack of Competence, Low Security, and Poor Self-Esteem (14 statements with possible scores from 14 to 56),
- (2) Preparing for Day-to-Day, Routine Academic Activities (16 statements with possible scores from 16 to 64),
- (3) Carrying Out Specific Long Range Academic Tasks (8 statements with possible scores from 8 to 32), and

(4) Total Scale (46 statements with possible scores from 46 to 184).

Limitations

The following might have affected the results of the present study.

- (1) the sample was not random,
- (2) all subjects were from a single university, and
- (3) all information was self reported.

Methodology

Setting:

The sample consisted of undergraduate and graduate students attending Fort Hays State University (FHSU). FHSU is a NCAA Division II university in western Kansas. The average enrollment at the university is approximately 5700 students per semester. The university is divided into four colleges: Health and Life Science, Arts and Science, Education, and Business. Pre-professional, graduate, and specialist programs are also offered. The university offers reading and study skills courses and supplemental instructions to help the students succeed while at FHSU ("Fort Hays", University Relations, no date given).

Subjects:

The researcher chose one graduate and one undergraduate class from each of the four colleges. Students in these classes were given the choice of participating in the study. All students who were present when the instruments were administered participated. The four colleges were Health and Life Science,

Arts and Science, Education, and Business. The subjects were chosen from eight classes which were: Techniques of Teaching Gymnastics and Tumbling (24 students), Coaching Today's Athlete (11 students), Elements of Learning (27 students), Advanced Learning and Motivation (12 students), Foundations of Education (16 students), Family Counseling (9 students), Financial Accounting (29 students), and Strategic Management (15 students). The researcher was unable to use 14 inventories due to incorrect completion.

The subjects consisted of 93 undergraduate and 46 graduate students who were currently enrolled in the 1993 spring semester at a NCAA II college in western Kansas. The sample consisted of five different levels of classification: freshmen, sophomores, juniors, seniors, and graduate students. Of the subjects 59 were males, and 81 were females.

Instrument:

The researcher employed two instruments. The instruments administered were the Study Behavior Inventory, Form D (SBI-D) and a demographic sheet.

Study Behavior Inventory, Form D— The SBI-D was developed by Mueller and Gibson in 1983 (cited by Bliss & Mueller, 1986) for college and university students. The instrument has 46 items which the present researcher used to obtain a total score. The items were divided equally into positive and negative statements to avoid response set. Scores were obtained from a modified Likert scale with four possible choices. The student circled a one

meaning rarely or never, two meaning sometimes, three meaning often or usually, and four, almost always doing what the statement said. The 46 statements were divided two different ways: three subscales and three factors. The three subscales were General Study Attitudes and Behaviors (21 statements), Reading and Note Taking Techniques (10 statements), and Strategies for Coping with Examinations (15 statements). Eight statements did not factor load so 37 statements were used for the three factors. The three factors were Feelings of Lack of Competence, Low Security, and Poor Self-esteem (14 statements), Preparing for Day-to-Day, Routine Academic Activities (16 statements), and Carrying Out Specific Long Range Academic Tasks (8 statements).

Bliss and Mueller (1986) reported a test-retest reliability coefficient of .94 based upon three weeks between administration. Internal consistency reliability coefficients estimated for the entire instrument ranged from .70 to .88. Cronbach's Alpha produced a reliability coefficient of .88. The three factors (Feelings of Lack of Competence, Low Security, and Poor Self-Esteem; Preparing For Day-to-Day, Routine Academic Activities; and Carrying Out Specific Long Range Academic Tasks) had internal consistency reliabilities of .86, .82, and .81, respectively.

The researcher phoned both Dr. Bliss and Dr. Mueller to obtain permission to administer the Study Behavior Inventory, Form D. Written permission was

obtained from Dr. Bliss to include a copy of the SBI-D in the thesis (Appendix F).

Demographic Sheet: The researcher developed a demographic sheet. The demographic sheet addressed subjects age, gender, academic major, college classification, cumulative undergraduate GPA, average hours studied per week, average hours worked during the week, if student had ever been on academic probation, if they were a community college transfer student, involved in organized college athletics, and the greatest difficulties they had in studying (Appendix G).

Design

A status survey factorial design was employed. The independent variables were college classification, gender, cumulative undergraduate GPA and average hours studied per week. The dependent variables were scores from the three factors (Feelings of Lack of Competence, Low Security, and Poor Self-esteem; Day-to-Day, Routine Academic Activities; and Carrying Out Specific Long Range Academic Tasks) and Total Score measured by the SBI-D.

Four composite null hypotheses were tested employing three-way analysis of variance (general linear model). The following design was used with each composite null hypothesis:

Composite null hypothesis number 1, a 5x2x3 factorial design,

Composite null hypothesis number 2, a 5x2x3 factorial design,

Composite null hypothesis number 3, a 5x3x3 factorial design, and

Composite null hypothesis number 4, a 2x3x3 factorial design.

McMillan and Schumacher (1989) cited 10 threats to internal validity. The 10 threats to internal validity were dealt with in the following ways in the present study:

- (1) history—did not pertain because the present study was status survey;
- (2) selection—researcher employed subjects who were enrolled, present, and volunteered at the time data were collected;
- (3) statistical regression—did not pertain because there were no extreme scores;
- (4) testing—did not pertain because the present study was status survey;
- (5) instrumentation—did not pertain because the present study was status survey;
- (6) mortality—did not pertain because the present study was status survey;
- (7) maturation—did not pertain because the present study was status survey;
- (8) diffusion of treatment—did not pertain because the present study was status survey;
- (9) experimental bias—same instructions were given by the researcher to each class and no treatment was administered; and
- (10) statistical conclusion—two mathematical assumptions were violated (equal numbers of subjects in cells and random placement). Lack of equal number of

subjects in cells was corrected for by using the general linear model, and the researcher did not project beyond the statistical procedure employed.

McMillan and Schumacher (1989) cited two threats of external validity. The two threats to external validity were dealt with in the following ways in the present study:

- (1) population external validity—a random sample was not used in the present study; therefore, generalization should be made only to similar groups of undergraduate and graduate students; and
- (2) ecological external validity—instruments were administered according to standard procedures and no treatment was employed.

Data collecting procedures

The researcher contacted professors from the four colleges at the university to obtain permission to survey their class. The researcher surveyed one undergraduate and one graduate class from each of the four colleges at the university. After obtaining permission the researcher went into each class and gave the same instructions (Appendix E). The students were given the opportunity to participate in the study, and all the students participated. The researcher had the students place the instruments into a manilla envelope to maintain confidentiality. The researcher examined and scored the inventories. A data sheet was prepared and the results were analyzed by the mainframe computer in the Computing Center at Fort Hays State University, Hays, Kansas.

Research Procedures

The researcher implemented the following operations in the process of conducting the study:

- (1) topic was selected,
- (2) researcher did computer literature review search on ERIC and Psychology Literature,
- (3) instrument was selected,
- (4) demographic sheet developed,
- (5) permission was obtained to use the instrument,
- (6) arrangements were made with professors to survey their class,
- (7) data were collected,
- (8) research proposal was compiled,
- (9) research proposal was defended before committee,
- (10) data were analyzed,
- (11) final research report was written,
- (12) final research report was defended before a committee, and
- (13) final editing of the document

Data Analyses

The following were compiled:

1. appropriate descriptive statistics;
2. three-way analysis of variance (general linear model);
3. Bonferroni (Dunn) t -test for means; and
4. Duncan's multirange test for means.

Results

The purpose of the researcher was to investigate study behaviors of undergraduate and graduate students. The independent variables investigated were college classification, gender, cumulative undergraduate G.P.A. , and average hours studied per week. The dependent variables were Feelings of Lack of Competence, Low Security, and Poor Self-esteem, Preparing for Day-to-Day, Routine Academic Activities, Carrying Out Specific Long Range Academic Tasks, and Total Scale. The Sample consisted of 59 males and 81 females. Four composite null hypotheses were tested, employing a three-way analysis of variance (general linear model). The following design was used with each composite null hypothesis:

Composite null hypothesis number 1, a 5 x 2 x 3 factorial design,

Composite null hypothesis number 2, a 5 x 2 x 3 factorial design,

Composite null hypothesis number 3, a 5 x 3 x 3, factorial design, and

Composite null hypotheses number 4, a 2 x 3 x 3, factorial design.

The results section was organized according to composite null hypotheses for ease of reference. Information pertaining to each composite null hypothesis was presented in a common format for ease of comparison.

It was hypothesized in composite null hypothesis number 1 that the differences among college classification, gender, and cumulative undergraduate G.P.A. would not be statistically significant. Information pertaining to composite null hypothesis number 1 was presented in Table 1. The following were cited in Table 1: variables, group sizes, means, standard deviations, F values, and p levels.

Table 1: A Comparison of Mean Study Behavior Inventory, Form D Scores According to Classification, Gender, and Cumulative Undergraduate GPA Employing a Three-Way Analysis of Variance

Variable	<u>n</u>	<u>M</u> *	<u>S</u>	<u>F</u> Value	<u>p</u> Level	
<u>Feelings of Lack of Competence, Low Security, and Poor Self-esteem**</u>						
<u>Classification (A)</u>						
Freshman	25	37.8	10.25			
Sophomore	30	39.6	8.02			
Junior	27	39.1	6.55	1.39	.2429	
Senior	11	35.0	7.78			
Graduate	47	41.3	7.40			
<u>Gender (B)</u>						
Male	59	39.4	7.78			
Female	81	39.4	8.33	0.68	.4115	
<u>Cumulative Undergraduate GPA (C)</u>						
0.00-2.50	28	36.9 ^a	7.64			
2.51-3.00	47	36.7 ^a	8.46	7.52	.0009	
3.01-4.00	65	42.5 ^b	6.92			
<u>Interactions</u>						
				A x B	1.25	.2926
				A x C	1.44	.1883
				B x C	0.08	.9196
				A x B x C	0.62	.7145
(continued)						

Table 1 (continued)

Variable	n	M	S	F Value	p Level	
<u>Preparing for Day-to-Day, Routine Academic Activities</u>						
<u>Classification (A)</u>						
Freshman	25	40.0	5.39			
Sophomore	30	41.8 ^g	7.87			
Junior	27	39.5	7.51	2.91	.0248	
Senior	11	38.8 ^h	7.14			
Graduate	47	43.1 ^g	8.78			
<u>Gender (B)</u>						
Male	59	38.8	6.38			
Female	81	43.0	8.22	3.65	.0588	
<u>Cumulative Undergraduate GPA (C)</u>						
0.00-2.50	28	37.3	7.65			
2.51-3.00	47	41.5	6.66	2.29	.1064	
3.01-4.00	65	42.8	8.08			
<u>Interactions</u>						
				A x B	0.92	.4526
				A x C	0.76	.6404
				B x C	0.64	.5287
				A x B x C	1.71	.1245

(continued)

Table 1 (continued)

Variable	n	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level	
<u>Carrying Out Specific Long Range Academic Tasks</u>						
<u>Classification (A)</u>						
Freshman	25	25.6	3.98			
Sophomore	30	25.5	3.49			
Junior	27	25.0	4.17	0.87	.4828	
Senior	11	25.6	3.93			
Graduate	47	26.4	3.32			
<u>Gender (B)</u>						
Male	59	24.1 ^a	3.80			
Female	81	26.9 ^b	3.13	4.03	.0472	
<u>Cumulative Undergraduate GPA (C)</u>						
0.00-2.50	28	22.1 ^a	3.99			
2.51-3.00	47	25.6 ^b	2.83	14.63	.0001	
3.01-4.00	65	27.4 ^c	2.85			
<u>Interactions</u>						
				A x B	2.01	.0852
				A x C	0.80	.5998
				B x C	0.52	.5980
				A x B x C	1.15	.3398

(continued)

Table 1 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level	
<u>Total Scale</u>						
<u>Classification (A)</u>						
Freshman	25	123.2	14.93			
Sophomore	30	129.2	15.46			
Junior	27	124.8	15.15	4.26	.0030	
Senior	11	119.5 ^a	11.24			
Graduate	47	133.4 ^b	14.05			
<u>Gender (B)</u>						
Male	59	122.6	13.58			
Female	81	131.9	15.02	3.49	.0645	
<u>Cumulative Undergraduate GPA (C)</u>						
0.00-2.50	28	116.2 ^a	14.33			
2.51-3.00	47	124.6 ^b	12.33	10.46	.0001	
3.01-4.00	65	135.5 ^c	13.1			
<u>Interactions</u>						
				A x B	1.92	.1118
				A x C	0.47	.8754
				B x C	0.07	.9305
				A x B x C	0.93	.4760

* The larger the value the greater the attribute.

** The possible score and theoretical means were the following: Feelings of Lack of Competence, Low Security, and Poor Self-esteem (14-56, 35); Preparing for Day-to-Day, Routine Academic Activities (16-64, 40); Carrying Out Specific Long Range Academic Tasks (8-32, 20); Total Scale (46-184, 115).

ab Difference statistically significant at the .05 level according to Bonferroni (Dunn) \dagger test for means.

gh Difference statistically significant at the .05 level.

Six of the 28 p values were statistically significant at the .05 level; therefore, the null hypotheses for these 6 comparisons were rejected. The significant comparison were for main effects. The following main effects were statistically significant:

1. cumulative undergraduate GPA for the dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem;
2. classification for the dependent variable Preparing for Day-to-Day, Routine Academic Activities;
3. gender for the dependent variable Carrying Out Specific Long Range Academic Tasks;
4. cumulative undergraduate GPA for the dependent variable Carrying Out Specific Long Range Academic Tasks;
5. classification for the dependent variable of Total Scale; and
6. cumulative undergraduate GPA for the dependent variable of Total Scale.

The information cited in Table 1 indicated the following for main effects:

1. students with cumulative undergraduate GPA 3.01-4.00 had a higher mean score for Feelings of Lack of Competence, Low Security, and Poor Self-esteem than students with cumulative undergraduate GPA of 0.00-3.00,
2. sophomores and graduate students had a higher mean score for

Preparing for Day-to-Day, Routine Academic Activities than seniors,

3. females had a higher mean score for Carrying Out Specific Long Range Academic Tasks than males,
4. students with cumulative undergraduate GPA 3.01-4.00 had a higher mean score for Long Range Academic Tasks than students with cumulative undergraduate GPA 0.00-3.00 and students with cumulative undergraduate GPA 2.51-3.00 had a higher mean score for Long Range Academic Tasks than students with cumulative undergraduate GPA of 0.00-2.50,
5. graduate students had a higher mean Total Scale score than seniors, and
6. students with cumulative undergraduate GPA 3.01-4.00 had a higher mean score for Total Scale than students with cumulative undergraduate GPA 0.00-3.00 and students with cumulative undergraduate GPA 2.51-3.00 had a higher mean score for Total Scale than students with cumulative undergraduate GPA of 0.00-2.50.

It was hypothesized in composite null hypothesis number 2 that the differences among college classification, gender, and average hours studied per week would not be statistically significant. Information pertaining to composite null hypothesis number 2 was presented in Table 2. The following were cited in Table 2 : variables, group sizes, means, standard deviations, F values, and p levels.

Table 2: A Comparison of Mean Study Behavior Inventory, Form D Scores According to Classification, Gender, and Average Hours Studied Per Week Employing a Three-Way Analysis of Variance

Variable	<u>n</u>	<u>M*</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Feelings of Lack of Competence, Low Security, and Poor Self-esteem**</u>					
<u>Classification (A)</u>					
Freshman	25	37.8	10.25		
Sophomore	30	39.6	8.02		
Junior	27	39.1	6.55	1.18	.3235
Senior	11	35.0	7.78		
Graduate	47	41.3	7.40		
<u>Gender (B)</u>					
Male	59	39.4	7.78		
Female	81	39.4	8.33	0.25	.6209
<u>Average Hours Studied Per Week (D)</u>					
0-5	37	39.0	7.95		
6-10	51	40.0	8.58	1.76	.1766
11+	52	39.1	7.78		
<u>Interactions</u>					
				A x B	1.56 .1912
				A x D	.97 .4620
				B x D	4.39 .0146
				A x B x D	1.03 .4116

(continued)

Table 2 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Preparing for Day-to-Day, Routine Academic Activities</u>					
<u>Classification (A)</u>					
Freshman	25	40.0	5.39		
Sophomore	30	41.8	7.87		
Junior	27	39.5	7.51	0.22	.9277
Senior	11	38.8	7.14		
Graduate	47	43.1	8.78		
<u>Gender (B)</u>					
Male	59	38.8	6.38		
Female	81	43.0	8.22	2.71	.1026
<u>Average Hours Studied Per Week (D)</u>					
0-5	37	36.6 ^a	6.67		
6-10	51	41.3 ^b	6.47	6.16	.0029
11+	52	44.5 ^b	8.09		
<u>Interactions</u>					
			A x B	0.31	.8730
			A x D	0.14	.8680
			B x D	0.47	.8772
			A x B x D	0.50	.8078

(continued)

Table 2 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Carrying Out Specific Long Range Academic Tasks</u>					
<u>Classification (A)</u>					
Freshman	25	25.6	3.98		
Sophomore	30	25.5	3.49		
Junior	27	25.0	4.17	1.07	.3741
Senior	11	25.6	3.93		
Graduate	47	26.4	3.32		
<u>Gender (B)</u>					
Male	59	24.1 ^a	3.80		
Female	81	26.9 ^b	3.13	4.48	.0366
<u>Average Hours Studied Per Week (D)</u>					
0-5	28	23.9	4.38		
6-10	47	26.1	3.17	2.59	.0793
11 +	52	26.7	3.19		
<u>Interactions</u>					
			A x B	1.59	.1818
			A x D	1.02	.4264
			B x D	0.91	.4055
			A x B x D	0.49	.8166

(continued)

Table 2 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Total Scale</u>					
<u>Classification (A)</u>					
Freshman	25	123.2	14.93		
Sophomore	30	129.2	15.46		
Junior	27	124.8	15.15	1.16	.3308
Senior	11	119.5	11.24		
Graduate	47	133.4	14.05		
<u>Gender (B)</u>					
Male	59	122.6 ^a	13.58	6.47	.0123
Female	81	131.9 ^b	15.02		
<u>Average Hours Studied Per Week (D)</u>					
0-5	28	119.7	14.05		
6-10	47	128.8	13.84	2.89	.0598
11 +	65	132.9	14.78		
<u>Interactions</u>					
			A x B	1.47	.2167
			A x D	0.64	.7433
			B x D	1.49	.2309
			A x B x D	0.53	.7840

* The larger the value the greater the attribute.

** The possible score and theoretical means were the following: Feelings of Lack of Competence, Low Security, and Poor Self-esteem (14-56, 35); Preparing for Day-to-Day, Routine Academic Activities (16-64, 40); Carrying Out Specific Long Range Academic Tasks (8-32, 20); Total Scale (46-184, 115).

ab Difference statistically significant at the .05 level according to Bonferroni (Dunn) † test for means.

Four of the 28 p values were statistically significant at the .05 level; therefore, the null hypotheses for these 4 comparisons were rejected. Three of the 4 significant comparisons were for main effects. The following main effects were significant:

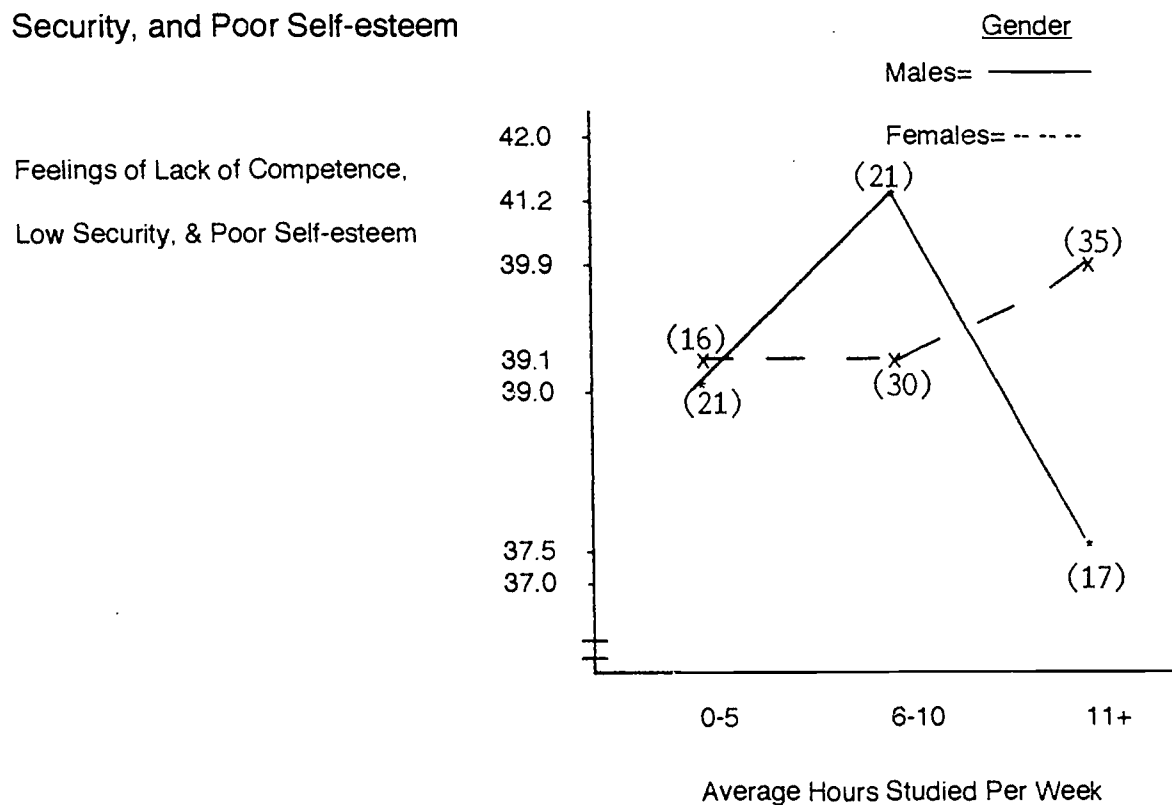
1. average hours studied per week for the dependent variable Preparing for Day-to-Day, Routine Academic Activities;
2. gender for the dependent variable Carrying Out Specific Long Range Academic Tasks (recurring see Table 1), and
3. gender for the dependent variable Total Scale.

The information cited in Table 2 indicated the following for main effects:

1. students who reported studying 6 or more hours per week had a higher mean score for Preparing for Day-to-Day, Routine Academic Activities than those who reported studying 0-5 hours per week, and
2. females had a higher mean Total Scale score than males.

The fourth statistically significant comparison was for the interaction between gender and average hours studied per week and the dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem. This interaction was depicted in a profile plot. Figure 1 contains mean scores for Feelings of Lack of Competence, Low Security, and Poor Self-esteem and curves for gender.

Figure 1: The Interaction Between Gender and Average Hours Studied Per Week For the Dependent Variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem



The interaction between gender and average hours studied per week for dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem was disordinal. The results cited in Figure 1 indicated the following:

1. males who reported studying 6-10 hours had numerically the highest mean score of any subgroup,
2. females who reported studying 11+ hours had numerically the highest mean scores for females, and

3. males who reported studying 0-5 and 11+ hours had numerically the lowest mean scores of any subgroups.

It was hypothesized in composite null hypothesis number 3 that the differences among college classification, cumulative undergraduate G.P.A., and average hours studied per week would not be statistically significant. Information pertaining to composite null hypothesis number 3 was presented in Table 3. The following were cited in Table 3: variables, group sizes, means, standard deviations, F values, and p levels.

Table 3: A Comparison of Mean Study Behavior Inventory, Form D Scores According to Classification, Cumulative Undergraduate GPA, and Average Hours Studied Per Week Employing a Three-Way Analysis of Variance

Variable	n	M*	S	F Value	p Level	
<u>Feelings of Lack of Competence, Low Security, and Poor Self-esteem**</u>						
<u>Classification (A)</u>						
Freshman	25	37.8	10.25			
Sophomore	30	39.6	8.02			
Junior	27	39.1	6.55	2.58	.0417	
Senior	11	35.0 ^d	7.78			
Graduate	47	41.3 ^e	7.40			
<u>Cumulative Undergraduate GPA (C)</u>						
0.00-2.50	28	33.9 ^a	7.78			
2.51-3.00	47	36.7 ^a	8.46	8.81	.0003	
3.01-4.00	65	42.5 ^b	6.92			
<u>Average Hours Studied Per Week (D)</u>						
0-5	37	39.0	7.95			
6-10	51	40.0	8.58	1.15	.3220	
11+	52	39.1	7.78			
<u>Interactions</u>						
				A x C	1.87	.0739
				A x D	0.52	.8395
				C x D	0.44	.7777
				A x C x D	0.56	.8779
				(continued)		

Table 3 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Preparing for Day-to-Day, Routine Academic Activities</u>					
<u>Classification (A)</u>					
Freshman	25	40.0	5.39		
Sophomore	30	41.8	7.87		
Junior	27	39.5	7.51	0.27	.8956
Senior	11	38.8	7.14		
Graduate	47	43.1	8.78		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	37.3	7.65		
2.51-3.00	47	41.5	6.66	1.26	.2887
3.01-4.00	65	42.8	8.08		
<u>Average Hours Studied Per Week (D)</u>					
0-5	37	36.6 ^a	6.67		
6-10	51	41.3 ^b	6.47	9.13	.0002
11+	52	44.5 ^b	8.09		
<u>Interactions</u>					
			A x C	1.36	.2887
			A x D	0.72	.6773
			C x D	1.87	.1224
			A x C x D	0.56	.8779

(continued)

Table 3 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Carrying Out Specific Long Range Academic Tasks</u>					
<u>Classification (A)</u>					
Freshman	25	25.6	3.98		
Sophomore	30	25.5	3.49		
Junior	27	25.0	4.17	0.41	.7985
Senior	11	25.6	3.93		
Graduate	47	26.4	3.32		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	22.1 ^a	3.80		
2.51-3.00	47	25.6 ^b	2.83	12.16	.0001
3.01-4.00	65	27.4 ^c	2.85		
<u>Average Hours Studied Per Week (D)</u>					
0-5	28	23.9 ^a	4.38		
6-10	47	26.1 ^b	3.17	5.62	.0049
11+	52	26.7 ^b	3.19		
<u>Interactions</u>					
			A x C	0.83	.5780
			A x D	0.81	.5966
			C x D	4.49	.0022
			A x C x D	1.14	.3374

(continued)

Table 3 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Total Scale</u>					
<u>Classification (A)</u>					
Freshman	25	123.2	14.93		
Sophomore	30	129.2	15.46		
Junior	27	124.8	15.15	1.36	.2519
Senior	11	119.5	11.24		
Graduate	47	133.4	14.05		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	116.5 ^a	14.33		
2.51-3.00	47	124.6 ^b	12.33	9.96	.001
3.01-4.00	65	135.5 ^c	13.1		
<u>Average Hours Studied Per Week (D)</u>					
0-5	37	119.5 ^a	14.06		
6-10	51	128.8 ^a	13.84	3.36	.0388
11+	52	132.9 ^b	14.78		
<u>Interactions</u>					
				A x C	0.56 .8107
				A x D	0.73 .6679
				C x D	1.64 .1703
				A x C x D	0.69 .7641

* The larger the value the greater the attribute.

** The possible score and theoretical means were the following: Feelings of Lack of Competence, Low Security, and Poor Self-esteem (14-56, 35); Preparing for Day-to-Day, Routine Academic Activities (16-64, 40); Carrying Out Specific Long Range Academic Tasks (8-32, 20); Total Scale (46-184, 115).

ab Difference statistically significant at the .05 level according to Bonferroni (Dunn) \dagger test for means.

de Difference statistically significant at the .05 level according to Duncan's Multiple Range Test for means.

Eight of the 28 p values were statistically significant at the .05 level; therefore, the null hypotheses for these 8 comparisons were rejected. Seven of the 8 significant comparisons were for main effects. The following main effects were significant:

1. classification for the dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem;
2. cumulative undergraduate GPA for dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem (recurring, see Table 1);
3. average hours studied per week for dependent variable Preparing for Day-to-Day, Routine Academic Activities;
4. cumulative undergraduate GPA for dependent variable Carrying Out Specific Long Range Academic Tasks (recurring, see Table 1);
5. average hours studied per week for dependent variable Carrying Out Specific Long Range Academic Tasks;
6. cumulative undergraduate GPA for dependent variable Total Scale (recurring, see Table 1); and
7. average hours studied per week for dependent variable Total Scale.

The information cited in Table 3 indicated the following for main effects:

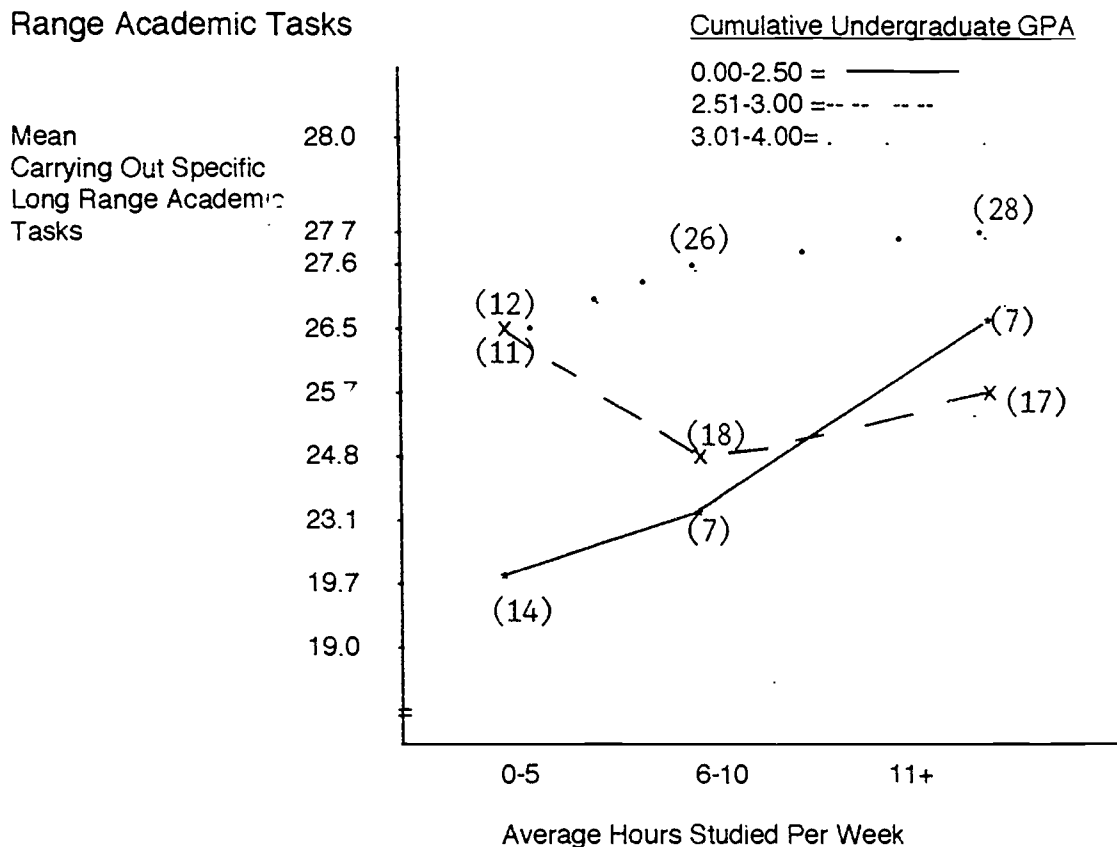
1. graduate students had a higher mean score for Feelings of Lack of

Competence, Low Security, and Poor Self-esteem than seniors,

2. students who reported studying 6 or more hours per week had a higher mean score for Preparing for Day-to-Day, Routine Academic Activities than those who reported studying 0-5 hours per week,
3. students who reported studying 6 or more hours per week had a higher mean score for Carrying Out Specific Long Range Academic Tasks than those who reported studying 0-5 hours per week, and
4. students who reported studying 11+ hours per week had a higher mean score for Total Scale than those students who reported studying 0-10 hours per week.

The eighth statistically significant comparison was for the interaction between cumulative undergraduate GPA and average hours studied per week and dependent variable Carrying Out Specific Long Range Academic Tasks. This interaction was depicted in profile plot. Figure 2 contains mean Carrying Out Specific Long Range Academic Tasks scores and curves for GPA.

Figure 2: The Interaction Between Cumulative Undergraduate GPA and Average Hours Studied Per Week for Dependent Variable Carrying Out Specific Long



The interaction between cumulative undergraduate GPA and average hours studied per week for dependent variable Carrying Out Specific Long Range Academic Tasks was disordinal. The results cited in Figure 2 indicated the following:

1. students with cumulative undergraduate GPA of 2.51-3.00 and reported studying 0-5 hours and those with 3.01-4.00 regardless of reported hours studied had numerically the highest mean scores of any subgroups, and
2. students with cumulative undergraduate GPA 0.00-2.50 who reported studying 0-5 hours had numerically the lowest mean score of any subgroups.

It was hypothesized in composite null hypothesis number 4 that the differences among gender, cumulative undergraduate GPA, and average hours studied per week would not be statistically significant. Information pertaining to composite null hypothesis number 4 was presented in Table 4. The following were cited in Table 4: variables, group sizes, means, standard deviations, F values, and p levels.

Table 4: A Comparison of Mean Study Behavior Inventory, Form D Scores
According to Gender, Cumulative Undergraduate GPA, and Average Hours
Studied Per Week Employing a Three-Way Analysis of Variance

Variable	<u>n</u>	<u>M</u> *	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Feelings of Lack of Competence, Low Security, and Poor Self-esteem**</u>					
<u>Gender (B)</u>					
Male	59	36.9	7.78	0.80	.3733
Female	81	39.4	8.33		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	36.9 ^a	7.64	7.87	.0006
2.51-3.00	47	36.7 ^a	8.46		
3.01-4.00	65	42.5 ^b	6.92		
<u>Average Hours Studied Per Week (D)</u>					
0-5	37	39.0	7.95	0.45	.6357
6-10	51	40.0	8.58		
11+	52	39.1	7.78		
<u>Interactions</u>					
				2.97	.0549
			B x C		
			B x D	0.43	.6503
			Cx D	0.93	.4489
			B x C x D	0.47	.7555

(continued)

Table 4 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Preparing for Day-to-Day, Routine Academic Activities</u>					
<u>Gender (B)</u>					
Male	59	38.8	6.38	2.93	.0892
Female	81	43.0	8.22		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	37.3	7.65	0.97	.3833
2.51-3.00	47	41.5	6.66		
3.01-4.00	65	42.8	8.08		
<u>Average Hours Studied Per Week (D)</u>					
0-5	37	36.6 ^a	6.67	8.58	.0003
6-10	51	41.3 ^b	6.47		
11+	52	44.5 ^b	8.09		
<u>Interactions</u>					
			B x D	0.06	.9437
			B x C	0.84	.4324
			C x D	1.13	.3448
			B x C x D	0.37	.8267

(continued)

Table 4 (continued)

Variable	<u>n</u>	<u>M</u>	<u>S</u>	<u>F</u> Value	<u>p</u> Level
<u>Carrying Out Specific Long Range Academic Tasks</u>					
<u>Gender (B)</u>					
Male	59	24.1 ^a	3.80	3.90	.0507
Female	81	26.9 ^b	3.13		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	22.1 ^a	3.99	14.36	.0001
2.51-3.00	47	25.6 ^b	2.83		
3.01-4.00	65	27.4 ^c	2.85		
<u>Average Hours Studied Per Week (D)</u>					
0-5	28	23.9 ^a	4.38	3.41	.0363
6-10	47	26.1 ^b	3.17		
11+	52	26.7 ^b	3.19		
<u>Interactions</u>					
			B x C	1.27	.2854
			B x D	0.32	.7294
			C x D	4.36	.0025
			B x C x D	0.69	.6010

(continued)

Table 4 (continued)

Variable	n	M	S	F Value	p Level
<u>Total Scale</u>					
<u>Gender (B)</u>					
Male	59	122.6	13.58	2.34	.1290
Female	81	131.9	15.02		
<u>Cumulative Undergraduate GPA (C)</u>					
0.00-2.50	28	116.2 ^a	14.33	10.12	.0001
2.51-3.00	47	124.6 ^b	12.33		
3.01-4.00	65	135.5 ^c	13.10		
<u>Average Hours Studied Per Week (D)</u>					
0-5	28	119.7 ^a	14.05	5.19	.0068
6-10	47	128.8 ^b	13.84		
11+	65	132.9 ^b	14.78		
<u>Interactions</u>					
			B x C	1.32	.2708
			B x D	0.68	.5102
			C x D	1.77	.1444
			B x C x D	0.94	.4448

*The larger the value the greater the attribute.

** The possible score and theoretical means were the following: Feelings of Lack of Competence, Low Security, and Poor Self-esteem (14-56, 35); Preparing for Day-to-Day, Routine Academic Activities (16-64, 40); Carrying Out Specific Long Range Academic Tasks (8-32, 20), Total Scale (46-184, 115).

ab Difference statistically significant at the .05 level according to Bonferroni (Dunn) † test for means.

Nine of the 28 p values were statistically significant at the .05 level; therefore, the null hypotheses for these 9 comparisons were rejected. Seven of the 9 significant comparisons were for main effects. The following main effects were significant:

1. cumulative undergraduate GPA for dependent variable
Feelings of Lack of Competence, Low Security, and Poor Self-esteem
(recurring, see Table 1);
2. average hours studied per week for dependent variable
Preparing for Day-to-Day, Routine Academic Activities
(recurring, see Table 3);
3. cumulative undergraduate GPA for dependent variable
Carrying Out Specific Long Range Academic Tasks
(recurring, see Table 1);
4. average hours studied per week for dependent variable
Carrying Out Specific Long Range Academic Tasks
(recurring, see Table 3);
5. gender for dependent variable Carrying Out Specific Long Range
Academic Tasks (recurring, see Table 1);
6. cumulative undergraduate GPA for dependent variable Total Scale
(recurring, see Table 1); and

7. average hours studied per week for dependent variable Total Scale (recurring, see Table 3).

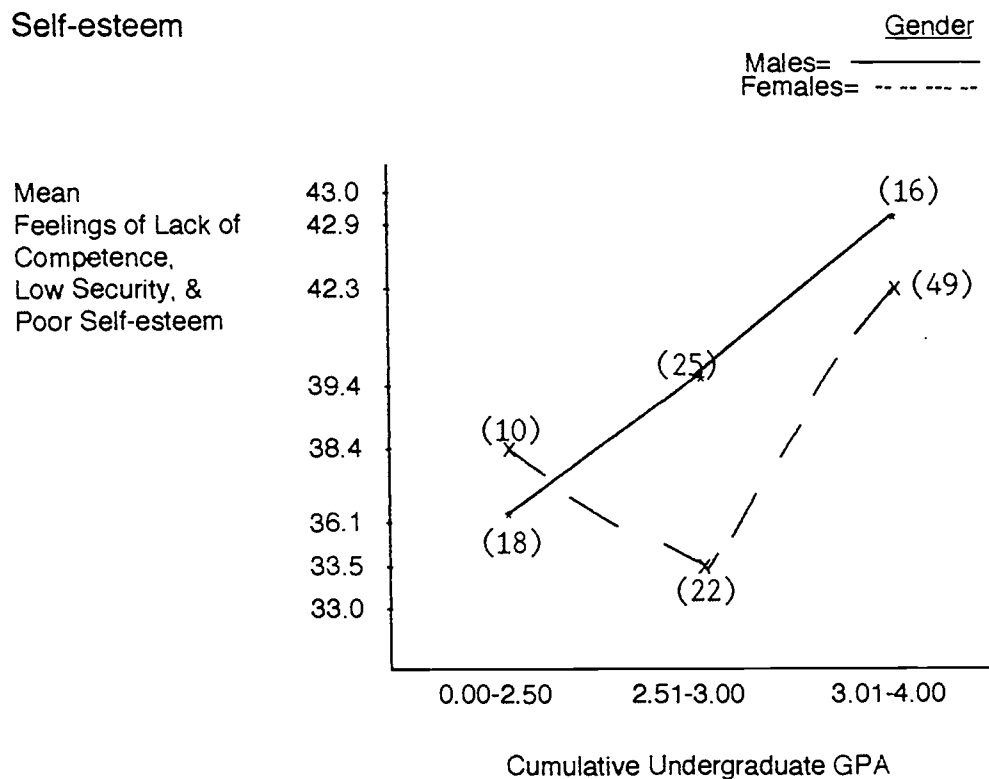
The information cited in Table 4 indicated no new statistically significant main effects.

Two of the nine significant comparisons were for interactions. The following interactions were statistically significant:

1. gender and cumulative undergraduate GPA for Feelings of Lack of Competence, Low Security, and Poor Self-esteem, and
2. cumulative undergraduate GPA and average hours studied per week for Carrying Out Specific Long Range Academic Tasks (recurring, see Figure 2).

The interaction between gender and cumulative undergraduate GPA for dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem was depicted in profile plot. Figure 3 contains mean Feelings of Lack of Competence, Low Security, and Poor Self-esteem scores and curves for gender.

Figure 3: The Interaction Between Gender and Cumulative Undergraduate GPA for Dependent Variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem



The interactions between gender and GPA for dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem was disordinal. The results indicated the following:

1. both males and females who reported GPA 3.01-4.00 reported numerically higher mean scores of any subgroups, and
2. females who reported GPA 2.51-3.00 reported numerically lowest mean scores of any subgroups.

Discussion

Summary

The purpose of the researcher was to investigate study behaviors of undergraduate and graduate students. The independent variables investigated were college classification, gender, cumulative undergraduate G.P.A. , and average hours studied per week. The dependent variables were Feelings of Lack of Competence, Low Security, and Poor Self-esteem; Preparing for Day-to-Day, Routine Academic Activities; Carrying Out Specific Long Range Academic Tasks; and Total Scale. The Sample consisted of 59 males and 81 females. Four composite null hypotheses were tested, employing a three-way analysis of variance (general linear model).

A total of 56 plus 56 recurring comparisons were made. Of the 56 comparisons 16 were for main effects. Of the 16 main effects, 12 were statistically significant. The following main effects were statistically significant:

1. cumulative undergraduate GPA for the dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem;
2. classification for the dependent variable Preparing for Day-to-Day, Routine Academic Activities;
3. gender for the dependent variable Carrying Out Specific Long Range Academic Tasks;
4. cumulative undergraduate GPA for the dependent variable Carrying Out Specific Long Range Academic Tasks;

5. classification for the dependent variable of Total Scale;
6. cumulative undergraduate GPA for the dependent variable of Total Scale
7. average hours studied per week for the dependent variable Preparing for Day-to-Day, Routine Academic Activities;
8. gender for the dependent variable Total Scale;
9. classification for the dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem;
10. average hours studied per week for dependent variable Preparing for Day-to-Day, Routine Academic Activities;
11. average hours studied per week for dependent variable Carrying Out Specific Long Range Academic Tasks; and
12. average hours studied per week for dependent variable Total Scale.

The results for statistical significant main effects indicated the following:

1. students with cumulative undergraduate GPA 3.01-4.00 had a higher mean score for Feelings of Lack of Competence, Low Security, and Poor Self-esteem than students with cumulative undergraduate GPA of 0.00-3.00,
2. sophomores and graduate students had a higher mean score for Preparing for Day-to-Day, Routine Academic Activities than seniors,
3. females had a higher mean score for Carrying Out Specific Long

Range Academic Tasks than males,

4. students with cumulative undergraduate GPA 3.01-4.00 had a higher mean score for Long Range Academic Tasks than students with cumulative undergraduate GPA 0.00-3.00 and students with cumulative undergraduate GPA 2.51-3.00 had a higher mean score for Long Range Academic Tasks than students with cumulative undergraduate GPA of 0.00-2.50,
5. graduate students had a higher mean Total Scale score than seniors,
6. students with cumulative undergraduate GPA 3.01-4.00 had a higher mean score for Total Scale than students with cumulative undergraduate GPA 0.00-3.00 and students with cumulative undergraduate GPA 2.51-3.00 had a higher mean score for Total Scale than students with cumulative undergraduate GPA of 0.00-2.50,
7. students who reported studying 6 or more hours per week had a higher mean score for Preparing for Day-to-Day, Routine Academic Activities than those who reported studying 0-5 hours per week,
8. females had a higher mean Total Scale score than males,
9. graduate students had a higher mean scores for Feelings of Lack of Competence, Low Security, and Poor Self-esteem than seniors,
10. students who reported studying 6 or more hours per week had a higher mean score for Preparing for Day-to-Day, Routine Academic

Activities than those who reported studying 0-5 hours per week,

11. students who reported studying 6 or more hours per week had a higher mean score for Carrying Out Specific Long Range Academic Tasks than those who reported studying 0-5 hours per week, and

12. students who reported studying 11+ hours per week had a higher mean score for Total Scale than those students who reported studying 0-10 hours per week.

Forty of the 56 comparisons were for interactions. Of the 40 interactions 3 were statistically significant. The following were significant:

1. gender and average hours studied per week for dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem,
2. cumulative undergraduate GPA and average hours studied per week for dependent variable Carrying Out Specific Long Range Academic Tasks, and
3. gender and cumulative undergraduate GPA for dependent variable Feelings of Lack of Competence, Low Security, and Poor Self-esteem.

Related Literature and Results of Present Study

The results of the research supported Weigel and Weigel's (1967) research which suggested that for women there is an increase in appropriate study habits and attitudes in regards to length of time they have attended college. The current research supports Michaels and Miethe (1989) in two areas. The areas were:

1. those students with better study habits are rewarded with a higher GPA, and
2. study time had a significant impact on GPA.

The researcher defends Bliss and Mueller's (1987) statement that students' perception of self is highly correlated between study skills and academic performance. This statement is supported by the findings that students who scored low on Feelings of Lack of Competence, Low Security, and Poor Self-esteem had lower GPAs.

Generalizations

The results of the present study appear to support the following generalizations:

1. college classification is associated with study behaviors,
2. gender is associated with study behaviors,
3. cumulative undergraduate GPA is associated with study behaviors, and
4. average hours studied per week is associated with study behaviors.

Recommendations

The results of the present study appeared to support the following recommendations:

1. study should be replicated with a larger random sample,
2. study should be replicated in universities in other geographic areas,
and
3. study should be replicated in universities of varying sizes.

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APPENDIX A

Letter Requesting Permission to Use and Copy the
Study Behavior Inventory, Form D

Jana Howard
215 W. 5th, Apt. B
Hays, KS 67601
(913) 628-8522

February 1, 1993

Dr. Leonard Bliss
Appalachian State University
Boone, NC 28608

Dear Dr. Bliss,

I am currently working toward completion of my Master of Science degree in Counseling at Fort Hays State University, Hays, Kansas. To fulfill my thesis requirement, I am conducting research concerning study behaviors and attitudes of undergraduate and graduate students at FHSU.

I would appreciate your permission to copy and use the "Study Behavior Inventory, Form D" as it appears in your April 1986 publication as presented at the annual meeting of the American Educational Research Association. With your approval I would like to place a copy of the inventory in my thesis. If you can provide any updated or unpublished information pertaining to this instrument, I would appreciate it.

Again, thank you for your time.

Sincerely,

Jana Howard

Permission is hereby granted to Jana Howard to use the Study Behavior Inventory from the 1986 presentation to American Educational Research Association. Permission is also granted to include a copy of my instrument within the Appendix of the thesis document.

APPENDIX B

Letter Granting Permission to Use and Copy

Study Behavior Inventory, Form D

Appalachian
STATE UNIVERSITY
BOONE, NORTH CAROLINA 28608

Reich College of Education
EDUCATIONAL FOUNDATIONS
Department of Library Science and
Educational Foundations
(704) 262-2243

February 8, 1993

Ms. Jana Howard
215 West Fifth
Hays, KS 67601

Dear Ms. Hayes:

You are authorized to reproduce up to 400 copies of the Study Behavior Inventory, Form D for the purposes of working on your thesis at Fort Hays State University, only. Each copy must bear the following statement:

©Andragogy Associates, 1987

Reproduced by permission for research purposes, only

I would appreciate your sharing the results of your study with me when you have completed your thesis. Good luck!

Sincerely,

Leonard B. Bliss
Leonard B. Bliss, Ph.D.
Professor

APPENDIX C

Letter Requesting Scoring Information for the Study Behavior Inventory, Form D

Jana Howard
215 W. 5th, Apt. B
Hays, KS 67601
(913) 628-8522

February 22, 1993

Dr. Leonard Bliss
Reich College of Education
Appalachian State University
Boone, N.C. 28608

Dear Dr. Bliss:

Thank you for granting permission to use Study Behavior Inventory, Form D. After looking over the instrument I had questions on which statements were positive or negative and which statements belong in the three subscales of general study attitudes and behaviors, reading and note taking techniques, and strategies for coping with examinations. I would appreciate it if you could send me a list of which statements belong in the scales mentioned above. I will be sending a copy of my results upon completion of the thesis.

Thank you for sparing time to answer this letter.

Sincerely,

Jana Howard

APPENDIX D
Scoring Information for the Study Behavior Inventory, Form D

Instructions For Scoring

The Study Behavior Inventory, Form D was written with both negative and positive statements to avoid response set. Therefore, the negative statements will be reversed scored. For example, if a student circles one for statement number one the student will receive four points because it is a negative statement. The following pages show scoring for each statement.

-1

Appalachian
STATE UNIVERSITY
BOONE, NORTH CAROLINA 28608

Reich College of Education
EDUCATIONAL FOUNDATIONS
Department of Library Science and
Educational Foundations
(704) 262-2243

February 26, 1993

Ms. Jana Howard
215 West 5th, Apt. B
Hayes, KS 67601

Dear Ms. Howard:

I am enclosing a copy of the last page of the manuscript of the 1986 AERA presentation where Dick Mueller and I first unveiled the Study Behavior Inventory. If you don't already have this article, it is in the ERIC collection under ED 268 180. It deals with the factor analysis of the responses of the national trial sample that most journal editors thought was too technical for their journals. They always seemed to be editing this table out in favor of a description of the items loading on the factors. Well, there is no satisfying both authors and editors, I guess. At any rate, this page gives you the information you wanted on which items load on which factors. You will note that there are eight items that load on no particular factor. These items have high levels on independent (unshared) variance. They do figure into the total score and significantly increase the correlation between the total score and freshman GPA's.

Also, I am enclosing a paper copy of the scoring template. From it you can determine which items are scored negatively. For instance, items one and two are negative statements and you will notice that someone who checked "Rarely or never true in my case" (choice 1) receives a score of 4 for each of these items. Item 3 is a positively worded item and someone who checked "Rare or never true in my case" (choice 1) receives a score of 1 for this item.

Hope this does the trick for you. Good luck on your thesis.

Sincerely,

Leonard Bliss

Leonard Bliss

STUDY BEHAVIOR INVENTORY — FORM D

Leonard B. Bliss
Richard J. Mueller

©Andragogy Associates, 1987
College/Adult Learning Specialists

This survey is designed to find out what study habits and skills you have developed at this stage of your college career. Knowing the results of this inventory can help students develop better and more productive ways to study and can help teachers do a better job of teaching.

All the information in this survey will be kept in the strictest confidence, so please be frank and honest in your answers.

The following is a list of statements of habits and attitudes which may affect use of study time and consequent success in school work and study. Please state your habits with regard to these items, not in accordance with what you think you should or should not do, or what you see others do, but in accordance with what you yourself are in the habit of doing. Please answer all questions.

After each statement, you will find columns 1, 2, 3, and 4. Mark each item by checking (✓) the space in column 1, 2, 3, or 4 — whichever best describes your behavior. Remember, this is a survey of your present habits and attitudes of study. Check each item in accordance with the following key:

Column 1: Rarely or never true in my case.

Column 3: Often or usually true in my case.

Column 2: Sometimes true in my case.

Column 4: Always or almost always true in my case.

I. GENERAL STUDY ATTITUDES AND BEHAVIORS

	1	2	3	4
1. My time is unwisely distributed; I spend too much time on some things and not enough on others	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
2. I find it hard to force myself to finish work by a certain time; work is unfinished, inferior, or not in on time.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
3. With some of my courses, I like to study with others	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4. I complete my homework assignments on time	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
5. I try to carry over and relate material learned in one course to that learned in others	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
6. I copy the diagrams, drawings, tables, and other illustrations that the instructor puts on the blackboard.....	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
7. I keep my assignments up-to-date by doing my work regularly from day to day	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>

	1	2	3	4
8. I prefer to study alone rather than with others.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
9. At the beginning of a study period, I organize my work so that I will utilize the time most effectively.....	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
10. When I am having difficulty with my schoolwork, I try to talk over the trouble with the teacher.....	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
11. In preparing reports, themes, term papers, etc., I make certain that I clearly understand what is wanted before I begin to work.....	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
12. When I get behind in my schoolwork for some unavoidable reason, I make up back assignments without prompting from the teacher.....	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
13. Difficulty in expressing myself in writing slows me down on reports, themes, examinations, and other work to be turned in.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
14. My teacher criticizes my written reports as being hastily written or poorly organized.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
15. I lay aside returned examinations, reports, and homework assignments without bothering to correct errors noted by the instructor.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
16. My studying is done in a random, unplanned manner impelled mostly by the demands of approaching classes.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
17. I try to do some "over-learning" — working beyond the point of immediate memory or recall.....	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
18. I put off writing themes, reports, term papers, etc., until the last minute.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
19. I watch too much television, and this interferes with my studies.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
20. I work too many hours for the course load I am carrying....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
21. Personal problems with my family affect my ability to concentrate on studying.....	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>

II. READING, WRITING AND NOTE-TAKING TECHNIQUES

	1	2	3	4
22. I have to re-read material several times — the words don't have much meaning the first time I go over them	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
23. I try to summarize, classify, and systematize the facts learned, associating them with previously learned materials and facts	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
24. I skip over the figures, graphs, and tables in a reading assignment	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
25. After reading several pages of an assignment, I am unable to recall what I just read	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
26. When in doubt about the proper form for a written report, I refer to an approved model to provide a guide to follow	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
27. When reading a long textbook assignment, I stop periodically and mentally review the main points that have been presented	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
28. When writing down notes from a lecture, I have trouble picking out the important points; I tend to put down material which turns out to be unimportant	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
29. After a class lecture, I go back and recite to myself the material in my notes — rechecking points I find doubtful	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
30. I keep all the notes for each subject together carefully arranging them in some logical order	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
31. Before attending class, I prepare by reading or studying the assignment	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>

III. COPING WITH EXAMINATIONS

32. I get nervous and confused when taking an examination and fail to answer questions to the best of my ability	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
33. I do poorly on tests because I find it hard to think clearly and plan my work when I am faced with an exam	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
34. I have difficulty in picking out important points of a reading assignment — points that later appear on examinations	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>

	1	2	3	4
35. I lose points on true-false or multiple-choice examinations because I change my original answer only to discover later that I was right the first time	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
36. I plan out in my mind the answer to subjective or essay-type examination questions before starting to write the answer	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
37. When preparing for an examination, I learn facts in some logical order of importance, order of presentation in class or textbook, order of time in history, etc.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
38. I am careless with spelling and mechanics of English composition when answering examination questions	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
39. Although I work until the last possible minute, I am unable to finish examinations within the allotted time	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
40. If time is available, I take a few minutes to check over my answers before turning in my examination paper	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
41. When tests are returned, I find my grade has been lowered because of careless mistakes	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
42. During an examination, I forget names, dates, formulas, and other details that I really do know	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
43. I believe that grades are based upon a student's ability to memorize facts rather than upon the ability to "think things through"	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
44. I study harder for final exams than for the rest of my coursework	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
45. I think I could do much better on tests if I could take them alone and/or not feel pressured by a time limit	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
46. Worry about how well I will do interferes with my preparation and performance on tests	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>

(END OF SURVEY)

TOTALS

Name _____
Last
First

Date _____

APPENDIX E
Instructions for Survey

INSTRUCTION SHEET

My name is Jana Howard, this is a survey for a Master's thesis in Counseling.

Please circle only one answer per question.

Please do not unstaple the instruments.

If you look at the second sheet you will notice the directions for the inventory are mark one- if you rarely or never

two- for sometimes

three- often or usually

four- if you almost always do what the statement says.

It is necessary to answer all the questions on the demographic sheet in order for it to be used in the study.

Information pertaining to the given individual will be kept confidential.

Please Do Not Sign Your Name!

Thank you for your cooperation.

APPENDIX F
Study Behavior Inventory, Form D

PLEASE answer each question how it pertains to you.

For each question circle:

one-if you rarely or never

two-for sometimes

three-if you often or usually

four-for almost always.

- 1 2 3 4 1. My time is unwisely distributed; I spend too much time on some things and not enough on others.
- 1 2 3 4 2. I find it hard to force myself to finish work by a certain time; work is unfinished, inferior, or not on time.
- 1 2 3 4 3. With some of my courses, I like to study with others.
- 1 2 3 4 4. I complete my homework assignments on time.
- 1 2 3 4 5. I try to carry over and relate material learned in one course to that learned in others.
- 1 2 3 4 6. I copy the diagrams, drawings, tables, and other illustrations that the instructor puts on the blackboard.
- 1 2 3 4 7. I keep my assignments up-to-date by doing my work regularly from day-to-day.
- 1 2 3 4 8. I prefer to study alone rather than with others.
- 1 2 3 4 9. At the beginning of a study period, I organize my work so that I will utilize the time most effectively.
- 1 2 3 4 10. When I am having difficulty with my schoolwork, I try to talk over the trouble with the teacher.
- 1 2 3 4 11. In preparing reports, themes, term papers, etc., I make certain that I clearly understand what is wanted before I begin work.
- 1 2 3 4 12. When I get behind in my schoolwork for some unavoidable reason, I make up back assignments without prompting from the teacher.
- 1 2 3 4 13. Difficulty in expressing myself in writing slows me down on reports, themes, examinations, and other work to be turned in.
- 1 2 3 4 14. My teachers criticize my written reports as being hastily written or poorly organized.

- 1 2 3 4 15. I lay aside returned examinations, reports, and homework assignments without bothering to correct errors noted by the instructor.
- 1 2 3 4 16. My studying is done in a random, unplanned manner, impelled mostly by the demands of approaching classes.
- 1 2 3 4 17. I try to do some "over-learning"; working beyond the point of immediate memory or recall.
- 1 2 3 4 18. I put off writing themes, reports, term papers, etc., until the last minute
- 1 2 3 4 19. I watch too much television and this interferes with my studies.
- 1 2 3 4 20. I work too many hours for the course load I am carrying.
- 1 2 3 4 21. Personal problems with my family affect my ability to concentrate on studying.
- 1 2 3 4 22. I have to re-read material several times; passages do not have much meaning the first time I go over them.
- 1 2 3 4 23. I try to summarize, classify, and systematize the facts learned, associating them with previously learned materials and facts.
- 1 2 3 4 24. I skip over the figures, graphs, and tables in a reading assignments.
- 1 2 3 4 25. After reading several pages of an assignment, I am unable to recall what I just read.
- 1 2 3 4 26. When in doubt about the proper form of a written report, I refer to an approved model to provide a guide to follow.
- 1 2 3 4 27. When reading a long textbook assignment, I stop periodically and mentally review the main points that have been presented.
- 1 2 3 4 28. When writing down notes from a lecture, I have trouble picking out the important points: I tend to put down material which turns out to be unimportant.
- 1 2 3 4 29. After a class lecture, I go back and recite to myself the material in my notes, rechecking any points I find doubtful.
- 1 2 3 4 30. I keep all the notes for each subject together, carefully arranging them in some logical order.
- 1 2 3 4 31. Before attending class, I prepare by reading or studying the assignments.
- 1 2 3 4 32. I get nervous and confused when taking an examination and fail to answer question to the best of my ability.

- 1 2 3 4 33. I do poorly on tests because I find it hard to think clearly and plan my work when I am faced with an exam.
- 1 2 3 4 34. I have difficulty in picking out important points of a reading assignment ; points that later appear on examinations.
- 1 2 3 4 35. I lose points on true-false or multiple-choice examinations because I changed my original answer only to discover later that I was right the first time.
- 1 2 3 4 36. I plan out in my mind the answer to subjective or essay-type questions before starting to write the answer.
- 1 2 3 4 37. When preparing for an examination, I learn facts in some logical order of importance, order of presentation in class or textbook, order of time in history, etc.
- 1 2 3 4 38. I am careless with spelling and mechanics of English composition when answering examination questions.
- 1 2 3 4 39. Although I work until the last possible minute, I am unable to finish examinations within the allotted time.
- 1 2 3 4 40. If time is available, I take a few minutes to check over my answers before turning in my examination paper.
- 1 2 3 4 41. When test are returned, I find that my grade has been lowered because of careless mistakes.
- 1 2 3 4 42. During exams, I forget names, dates, formulas, and other details that I really do know.
- 1 2 3 4 43. I believe that grades are based upon a student's ability to memorize facts rather than upon the ability to "think things through."
- 1 2 3 4 44. I study harder for final exams than for the rest of my coursework.
- 1 2 3 4 45. I think I could do much better on tests if I could take them alone and/or not feel pressure by a time limit.
- 1 2 3 4 46. Worrying about how well I will do interferes with my preparation and performance on tests.

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APPENDIX G
Demographic Sheet

DEMOGRAPHIC SHEET

Instructions: Please circle one answer per question. Give the most appropriate response.

Gender: Male Female

Classification: Freshman Sophomore Junior Senior Graduate Student

Age: 18-23 24-29 30-35 36-40 41-45 46-50 51-55 56 or older

Undergraduate G.P.A.: 0.0-1.50 1.51-2.00 2.01-2.50
2.51-3.00 3.01-3.50 3.51-4.0

Major: _____

Have you ever been on academic probation or suspension? YES NO

Are you a transfer student from a two year community college? YES NO

Are you involved in organized college athletics [Basketball, Football, Track, etc.]
YES NO

If you are employed how many hours a week on the average do you work?
Not employed 1-10 11-20 21-30 31-40 40 or more

On the average how many hours a week do you spend studying?
0-5 6-10 11-15 16-20 21 or more

What are the greatest difficulties you have in studying?

