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The Effects of Physical Activity and a Single Gender Learning Community on the Success of First Year College Males

Cory D. Taylor
Wright State University

THE EFFECTS OF PHYSICAL ACTIVITY AND A SINGLE GENDER LEARNING COMMUNITY ON THE SUCCESS OF FIRST YEAR COLLEGE MALES

An electronic thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts

By

CORY D. TAYLOR

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Wright State University

Dayton, Ohio

WRIGHT STATE UNIVERSITY

SCHOOL OF GRADUATE STUDIES

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Cory D. Taylor ENTITLED The effects of physical activity and a single gender learning community on the success of first year college males BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts.

_____
Charles W. Ryan, Ph.D.
Thesis Advisor

_____
Scott Graham, Ph.D.
Department Chair

Committee on Final Examination

_____
Charles W. Ryan, Ph.D.

_____
Glenn Graham, Ed.D.

_____
Joanne Risacher, Ph.D.

_____
Joseph F. Thomas, Jr., Ph.D.
Dean, School of Graduate Studies

Abstract

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Since the 1970's and the passing of Title IX of the educational amendments to the Civil rights Act of 1964, the gender demographic at American colleges and universities has changed dramatically. Today the average American college or university is over 57% female, a number that is projected to exceed 60% by 2020. In addition to the fact that in comparison to their female counterparts, less male students are coming to college, we are also seeing that once in college, male students are less likely to persist through to graduation.

This study investigated the effects of weekly physical activity within the context of a first-year freshman seminar experience as well as the effects of an all-male classroom experience. The students at a medium sized public state university voluntarily registered for a first-year experience learning community. There were multiple options available in respect to their learning community seminar including single gender or co-educational as well as sections with or without an added recreational component. This study is an ex post-facto investigation of the academic successes of these male students in their first collegiate term.

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I want to express a sincere thanks to all those who assisted and supported my undertaking this project:

- My thesis committee, for helping to guide me through this process and working with me as stumbled my way through.
- The entire UVC staff that allowed me to create an all male section and permitted me to teach for another year.
- Barb Bullock in the Budget Planning and Resource Analysis department for assisting in collecting the data.
- The students that let me into their lives, they taught me just as much as I ever taught them – they are the reason I went into student affairs.

DEDICATION

This project can only be dedicated to one man – my mentor and friend – Doug Saul. It was through my interactions with Doug that I realized that I could stay in college for the rest of my life. There is a certain electricity that exists on a college campus and it is that electricity that invigorates my soul. Had it not been for the faith and confidence that Doug had in me as an undergraduate, I may never have understood the sheer joy of helping students transition and succeed in higher education. When others were ready to cast this fraternity boy aside, Doug had faith in me and kept me on staff. To you Doug, I again say thank you, thank you a million times over.

CHAPTER I

INTRODUCTION TO THE STUDY

General Background

In the fall of 1972, the gender demographic of American Higher Education had females accounting for only 43.1% of all enrolled students according to the U.S. Department of Education (2005). In that same year, Title IX of the educational amendments to the Civil Rights Act of 1964 was passed, stating, “No person in the United States shall, on the basis of sex, be excluded from participation in, or denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal assistance” (U.S. Department of Labor, 2006). This amendment required federally funded educational institutions to offer equal opportunities for each gender across various areas.

Thirty years later, the balance is heavily reversed; today we see that the student body at the average U.S. college or university is over 57% female (U.S. Department of Education, 2005) a number that is projected to exceed 60% by 2020 (Conlin, 2003). Yet there is no social outcry for action. The problem is not the structure this time; there are equal opportunities for men and women. Title IX has been effective in leveling the playing field for women in education and now men are failing to keep pace with their female counterparts in education.

Significance of the Study

In the field of Higher Education, not only are we seeing fewer males admitted to our institutions than females, we are also seeing that once in college, male students are

less likely to persist through to graduation (Horn & Peter, 2005; Vickers, 2006). The question is, *Why are our sons failing?*

Many researchers attribute the hardships faced by males and their lower success rates to an educational environment that fails to lend itself to the biological, developmental and psychological differences between the genders (Tyre, et al., 2006; Conlin, 2003; Gurian, Henley, & Trueman, 2001; Czopp, et al., 1998; Pollack, 1998; Moir & Jessel, 1989;). According to William Pollack, only 58% of males are enrolling in college compared to 67% of females (as cited in Hornblower, 1998).

This study aims to investigate some of the possible effects of regular, organized, physical group activity and a single gendered learning community involvement on the academic performance of first year college male freshmen. These are two of the leading solutions that have been represented throughout the literature along with positive male mentors and emotional safe-zones. While this study lacked the financial support and scope to directly provide the latter two solutions, the principle investigator did provide a male instructor and maintained a classroom environment of acceptance and support.

As student affairs practitioners, it is important to assess how effectively we serve the various constituencies we aim to help in their college endeavors. Rarely, if ever, do we closely examine how we specifically serve the male gender. This study was designed as an introductory investigation into some of the factors that may influence college success in males. It was not designed to be conclusive in any way, but rather as a means to lead to awareness and further research. It was the goal of the researcher to raise more questions than answers and influence others to embark on further research on the topic of how to improve college success in the male gender.

Statement of the Problem

Across the country, the gender gap in higher education is widening and there is little to no end in sight. With the amazing achievements of the feminist and equal rights movements, university personnel have been able to better serve the developmental needs and unique experiences of women. As we continue to strive forward in student development, Student Affairs practitioners must learn to become more consciously aware and inclusive of the needs of college men. With the widening gender gap at baccalaureate commencements, we as practitioners must find ways to support men through graduation. The purpose of this study was to investigate the benefits for male students of two variables in the First-Year Experience: a single-sex classroom environment and weekly physical activity.

Independent and Dependent Variables

There are two independent variables being tested in this study. The first independent variable is the gender make-up of the First-Year Experience Learning Community class that each male student is enrolled in. The second independent variable is the inclusion of a physically active recreational component.

There are two dependent variables being measured. The first dependent variable is the cumulative first quarter GPA of each male student in the sample. The second dependent variable is the individual grade each male student earns in the Introduction to Psychology course. This study measured the grade in Psychology in order to control for differences in course-load difficulty. All members of the sample are enrolled in a Learning Community that is taught by a peer instructor and linked to either Psychology 105:01 or 105:02 – both taught by the same instructor. If there are significant differences

in first quarter GPAs as well as final Psychology grades, this may help to validate the claim that the independent variables introduced had a significant affect on overall first quarter GPAs.

Definition of Terms

Independent Variable – Physical Activity: is defined, for the sake of this study, as an activity, offered outside of the classroom, which involves moderate to considerable motor skills and physical assertion, i.e. soccer, football, basketball, dodge ball, volleyball, wall climbing, ROTC workout and kayaking.

Independent Variable – Classroom Gender Environment: is the male-to-female ratio of the learning community seminar. This study will consist of two environments – co-educational (consisting of at least one male and one female) and single gender (all male).

Dependent Variable – First Quarter GPA: is the total grade point average earned by an individual who has only completed one term at the institution. This average is figured by dividing the sum of the individual's quality points by his credit hours attempted. Hours attempted do not include classes that do not receive letter grades including UVC 101.

Dependent Variable – Introduction to Psychology Grade: is the letter grade (A, B, C, D or F) earned by each individual in the study in the Introduction to Psychology, PSY 105:01 or PSY 105:02, course. Both sections were taught Monday, Wednesday, and Friday for 50 minutes per day. The only difference between the two sections was that one began at 9:45 a.m. and the other began at 12:15 p.m.

First Year Experience Learning Community: a class of (up to) 25 students who are enrolled in the same section of at least one general education course in addition to a 2-credit hour seminar class during their first quarter at a mid-to-large sized public university. The seminar focuses on material that is designed to help a student adjust and succeed at college and may have a special theme. Wright State offers about 60 to 70 sections of this course every fall quarter. The seminar is graded as Pass/Unsatisfactory and does not affect GPA. Learning Communities are optional but highly recommended. Nearly 80% of all first quarter freshmen at Wright State enroll in a Learning Community.

Peer Instructor: is an undergraduate or graduate student who, after training, teaches a section of UVC 101 Learning Community. These students are given a certain amount of material that they must cover, about 60-70% of the course, and then have the flexibility to design the remainder of their section as they see fit.

College Success Component: is the material that all Peer Instructors must cover. The majority of the material focuses on topics such as time management, note taking, study skills, test taking tips, adjusting to college, registration, GPA calculation, stress management, etc. The material must be covered but the instructor may choose how he/she would like to introduce the concepts.

Campus Recreation Section: is a section of a First-Year Experience Learning Community that meets for a third hour per week in order to participate in physical recreation. These sections include such activities as sports, low ropes challenge courses, climbing towers or any of a number of other principal activities. These sections are also taught by Peer Instructors.

Research Questions/Hypotheses

The following questions were developed to focus this study:

RQ1. What influence will the incorporation of a regular physical, organized, group activity have on male students' performance in academic classes as evidenced by the final grades they receive?

RQ2. What effects will learning college success techniques in an all male classroom environment have on GPA

The research hypothesis states that there will be significant differences between the means using an α=0.05 level of significance. The null hypothesis states that there will be no significant differences between the means.

Assumptions

The following assumptions were identified and accepted in this study:

1. The majority of men in college have grown up in an environment that has taught them the rules of 'The Boy Code.'
2. Different peer instructors will cover the common core college success component equally and adequately.
3. Both sections of PSY 105 were taught equally.

Scope and Limitations

The following scope and limitations were identified in this study:

1. This study could not use random sampling and thus was forced to use self-selection as a means for choosing the members of the sample.
2. This study's ex post facto design is unable to show that X causes Y; it can only suggest that X may cause Y.

3. The study was only administered at one medium-sized state-funded university.
4. The study was unable to control for differences in teaching style and effectiveness of the UVC 101 class as each section is taught by a different peer instructor. By limiting the sample to only peer instructed learning communities, the study has controlled for the majority of differences in training as all peer instructors go through the same training sessions.
5. This study uses as one of its dependent variables, each subject's Psychology grade, a science course. The study does not equally address any liberal arts courses, limiting the control for differences in hemispherical strengths of the mind.

Summary

Today, there is an evident gender gap on our college campuses that begins with males enrolling at lower percentages than females and widens when men have a lower persistence rate. The purpose and scope of this study aimed to investigate possible ways in which institutions of higher education can provide targeted support to help male students be successful in college. Specifically, this study looked at the effects of regular, physical activity and an all male gender classroom on the academic success of first year male students.

CHAPTER II

REVIEW OF RELATED LITERATURE

Square Peg, Round Hole

According to Pollack, a psychologist and professor of Psychology at the Harvard Medical School, not only are boys falling behind girls in school, they are also falling behind their own potential or expected cognitive development (Pollack, 1998). Today, boys are intellectually starting behind and failing to catch up (Tyre, Murr, Juarez, Underwood, Springen, & Wingert, 2006). From the beginning of elementary school the average male is almost two years behind his female counterpart in reading and writing development, yet he is taught in the same manner and style and expected to perform in step with the girls (Conlin, 2003).

In the elementary classroom, students are expected to sit quietly, speak in turn, pay attention to ideas, listen and not fidget – it is a system that is completely unnatural to boys and in direct conflict with their biological wiring. "His is a world of action, exploration and things," (Moir & Jessel, 1989, p. 64) not one of quiet sitting and ideas. Thompson, co author of "Raising Cain," posited that "Girl behavior [has] become the gold standard" and that "boys are treated like defective girls" (as cited in Trye et al., 2006, para. 11). According to the authors of a study in the *Journal of Social Behavior and Personality*, numerous studies have shown that teachers reward feminine characteristics in their students, thus creating a link between studious behavior and femininity (Czopp, Lasane, Sweigard, Bradshaw & Hammer, 1998).

When boys fail to keep up and learn at a suitable pace, they are often labeled as troublemakers or learning-disabled (Pollack, 1998). "When boys squirm in their seats,

teachers take away recess, the very thing they need" (Pollack, 1999, p. 21). According to Tyre et al. (2006) elementary school boys are twice as likely to be diagnosed with learning disabilities and/or be placed into special education classes.

Once a boy reaches middle school, he faces yet another educational roadblock: his own brain's development. Research by Dr. Jay Giedd, a brain development expert with the National Institutes of Health, observed that the prefrontal cortex, the region of the brain responsible for the organization of complex ideas, impulse control and the understanding of one's actions, matures 18 months slower for boys than girls (as cited in Tyre et al., 2006).

As our boys prepare to enter high school, the stage has been set for failure – for the last eight to ten years, our boys have been trying to perform at levels for which they have yet to mature to, act in a manner that is in direct opposition to their biological wiring and learn in an environment that fails to take their learning styles into consideration. Michael Gurian, co-founder of the Gurian Institute that focuses on how boys and girls learn differently, found that "the vast majority of reading-traumatized and reading-deficient high school students are young men" (Gurian, Henley & Trueman, 2001, p. 297). Today, males are 33% more likely to drop out of high school and if they do persist, score significantly lower on standardized reading and writing tests than their female counterparts (Tyre et al., 2006). These two benchmark tests measure the foundations of our educational system – we are forced to read material, directions and assignments and then prove our proficiency of the material by writing our thoughts and ideas on paper. Is it any wonder that males are choosing not to go to college in increasing numbers and

voluntarily sign-up for more of the educational system that has yet to listen to their needs?

Current Picture in Higher Education

As we look at the current scene in higher education, we can see the picture Michelle Conlin described in her article for *Business Week* magazine:

> For 350 years, men outnumbered women on college campuses. Now, in every state, every income bracket, every racial and ethnic group, and most industrialized Western nations, women reign, earning an average 57% of all BAs and 58% of all master's degrees in the U.S. alone. There are 133 girls getting BAs for every 100 guys -- a number that's projected to grow to 142 women per 100 men by 2010, according to the U.S. Education Dept. If current trends continue, demographers say, there will be 156 women per 100 men earning degrees by 2020. (Conlin, 2003, para. 10)

The body of research dealing with how to help male students succeed in college is minute when compared to the number of papers about assisting female students. Studies on how to provide the stereotypical power-holder with assistance and special programming may be seen by some as politically incorrect. Gar E. Kellom, Director of the St. John's University Men's Center, asked the question this way: "How might one focus on engaging men while not diminishing the positive and important momentum in the improvement of education for college women?" (2004, p. 1).

Looking back at the history of higher education, we see that when the field has recognized a problem with the performance, persistence and engagement of underrepresented groups (women or persons of color for example), it was fairly simple to

explain – sexism, racism, etc. Today however, it is the dominant power-holder that is also having similar problems (Capraro, 2004). While one would be naive to claim that there is one clear problem, we can evaluate the situation and try to identify some central themes to address.

The Boy Code

The Boy Code (Pollack, 1998) is a set of injunctions that boys learn from their earliest days of playing with others. The four injunctions as stated by Deborah David and Robert Brannon in 1976 are; *The Sturdy Oak, Give 'em Hell, The Big Wheel and No Sissy Stuff* (as cited in Pollack, 1998, p. 23). Each injunction plays a part in teaching boys how they *must* behave in order to avoid shame – the most detrimental emotion to the self esteem of any male. *The Sturdy Oak* injunction tells men that they must always be tough and never show weakness: 'boys don't cry', 'don't be a wimp', etc. It calls on boys to always appear confident and strong while never allowing anyone to see their weaknesses. The *Give 'em Hell* injunction frequently leads boys to engage in risky and dangerous behaviors while allowing parents and other adults to ignore problems by just saying that 'boys will be boys.' *The Big Wheel* injunction "refers to the way in which boys and men are taught to avoid shame at all costs, to wear the mask of coolness, to act as though everything is all right, as though everything is under control, even if it isn't" (Pollack, 1998, p. 24). The injunction *No Sissy Stuff* is a literal gender straightjacket. This injunction forbids males from displaying anything that might be conceived as feminine. Few emotions are acceptable outside of anger and confidence (Pollack).

In his article, *Men's studies as a foundation for student development work with college men,* Rocco Capraro (2004) theorized that many college men see the support

services on our college campuses as feminine and nurturing. He believed that men are not using them because if they did, it may appear that they are weak, not in control, incapable of doing it on their own. All feelings that would be in direct conflict with Pollack's (1998) Boy Code and a source of shame.

Capraro (2004) continued to note that in his view, if we as practitioners want to be successful in serving the needs of men, we must realize that while they do need the services we are offering, their own masculinity is making it very difficult for men to utilize them. His suggestion is to include two features into our programs directed at men:

1. Embedding men's identity, experience, and development in masculinity, or acknowledging how men live in relation to prevailing models of what it means to be a man; and
2. Employing a male-student-centered pedagogy, or offering programs that are single-sex, peer-facilitated (by highly trained peers), small-group, interactive, experientially based, residentially based, and required. (2004, p. 30)

Masculinity is a Gender Too

One of the major problems with trying to develop services to help men is that we overestimate our own knowledge on the subject. This can lead to falling back on stereotypical models of gender or forgetting altogether that men are also gendered beings (Davis & Laker, 2004).

Lee Burdette Williams (2004), a Women's Studies teacher and former advisor to Appalachian State University's Women's Center, wrote about how her experience attending the student production "What's Left of Him" led her to ask herself for the first time, *What does it mean to be a man?* The conclusion of the performance is a male

student, covered from the waist down who asks, *"Is this me?"* He then pulls the sheet that had been covering his lower half up, revealing himself and asks, *"Or is this me?"* She admitted that after the performance she understood that men are also hurt by the expectations of gender-based society, that they are denied a portion of humanity and that they sometimes cannot love and connect.

If one were to look at our libraries and college courses, he/she would find a plethora of men as subjects of interest and study but it would be difficult to locate subjects or courses about these men *as men.* Rarely do we ever look at how the male figures of our society are influenced by their gender; how Theodore Roosevelt's rough rider image (very masculine) played into his popularity for example. By contrast, when one studies many of the great female figures of history, much of the analysis focuses on how their femininity is highly visible and influenced their work (Kimmel & Aronson, 2004).

In student affairs, when we design programs and services, we are taught to consider how our target audience will vary by identity and to take into considerations the way we will affect women, persons of color or those of varying sexual orientations to name just a few (Davis & Laker, 2004). There is rarely discussion however on how our programs will affect males in particular. We should take masculinity into consideration when designing support services – *What does it mean to be a man?*

Activity as a Fundamental Aspect of Masculinity

Males, in general, are attracted to physical, competitive and active games with large groups and open spaces. They prefer to have a clear set of rules or laws (Pollack, 1998). While young girls will cluster around and tell stories, boys will tend to race about

in games of action and dominance. Boys have an innate tendency to build, disassemble and in other ways touch what is new to them. His is an active world of things, driven by the dominance of the right hemisphere of his brain (Moir & Jessel, 1989).

Pollack (1998), through his practice and research found that many mothers find it much easier to engage their sons in conversation and open dialogue if they do so while participating in a physical activity. This same mentality can be used when dealing with perceived negative tendencies,

> We can search for ways to celebrate our boys' energy and channel it into positive and productive activities. If they feel the urge to hit, let's give them a punching bag and help them learn to box. If they want to scream and yell, let's play a game that gives them the chance to cheer. (Pollack, p. 58)

Action also finds its way into a man's emotional mentality. A boy is much more likely to do something nice or out of his way in order to demonstrate his attachment or affection than to come out and express these feelings verbally. The bond between father and son has a special way of growing out of action oriented activities that challenge one's ability to handle conflict and pressure (Pollack, 1998). Action is a boy's natural choice of communication of feelings (Pollack).

Summary

The literature contains numerous studies in which the authors investigated why men are falling behind women in education. The leading theories include a lack of physical activity, no safe zones for emotional sharing and a lack of positive male mentors.

CHAPTER III

METHODS AND DESIGN

Target Population

This study was *ex post facto* in nature and utilized the university's pre-existing First Year Learning Community Program in order to administer its treatments. The target population for this study consisted of all first year male students enrolled in peer instructed learning communities at this mid-to-large sized public university.

Sample

The sampling procedure was forced to rely on self-selection as first year students registered for their first term. All members of the sample were males enrolled in one of the nine peer-instructed Learning Communities linked to an Introduction to Psychology course, PSY105, taught by a single instructor. Subjects were excluded from the sample if they failed to earn a P (pass) grade in their Learning Community Seminar. The pass criterion ensured that the subject participated in the learning community seminar class sessions, as a 70% attendance rate was a requirement to pass any peer-instructed learning community, and thus was exposed to the treatment.

Treatment

The members of the sample received the treatments in the form of the learning community classroom structure and additional class sessions aimed at physical recreation. Each of the nine sections in the sample were exposed to one of the three treatment combinations:

Treatment 1: All male class with physical recreation,

Treatment 2: Co-educational class with physical recreation, and

Treatment 3: Co-educational class without physical recreation.

One section of 18 males, taught by the primary researcher, was exposed to treatment 1. Two sections with gender ratios of 13 males to 12 females and 14 males to 11 females were taught by other peer instructors and received treatment 2. Finally six sections with male-to-female ratios of 9:10, 8:15, 6:12, 4:20, 3:20 and 2:21, were also taught by other peer instructors and participated in treatment 3.

Data Collection

The researcher collected the following data set from university records: learning community section, gender, ACT/SAT score, learning community seminar grade, Psychology 105 grade, and Fall 2006 GPA. These data allowed the researcher to sort the records into treatment groups and exclude those subjects who did not pass their learning community seminar.

The original data set included all 1188 students that were enrolled in UVC 101 for the fall quarter 2006. From this list, observations were eliminated if they were female, enrolled in a section not covered by this study, failed to pass the LC seminar, and/or had missing data (ACT/SAT scores, UVC or PSY grades). The final sample contained 62 observations with the following breakdown:

Treatment 1: All male class with physical recreation (n=17)

Treatment 2: Co-educational class with physical recreation (n=25)

Treatment 3: Co-educational class without physical recreation (n=20)

Data Analysis

Once the records had been organized into treatment groups, the data were entered into the computer software package SAS (Statistical Analysis Software). SAS was used

to conduct two separate Analyses' of Co-Variance (ANCOVA) procedures in order to measure differences in the dependent variables (Fall Quarter GPA and PSY 105 Grades) between the three treatment groups. In an attempt to control for differences in scholastic ability prior to the treatment, this study used ACT scores (or SAT equivalents – table attached as appendix A) as covariates. An α=0.05 level of significance was used.

By comparing the dependent variable scores between treatments 1 and 2, this study should have been able to evaluate any differences that may be due to classroom gender ratio when a physical recreational component is present. By comparing the dependent variable scores between treatments 2 and 3, this study should have been able to evaluate any differences that may be due the addition of a physical recreation component in a co-educational seminar.

Summary

The male students enrolled in a total of nine sections of UVC 101 were examined in terms of academic success as evidenced by their fall quarter GPAs and PSY 105 grades. The means of each treatment group were compared based on which combination of the independent variables the section was exposed to – single gender/coeducational and with/without physical recreation. The academic success factors were analyzed using two separate Analyses' of Co-Variance operations that utilized the student's ACT scores as covariates.

CHAPTER IV

RESULTS

The purpose of this study was to investigate some of the possible effects of regular, organized, physical group activity and single gender learning community involvement on the academic performance of first year college male freshmen. This study was designed as an introductory investigation into factors that may influence college success in males. It was not designed to be conclusive, but rather as a means to lead to awareness and identify areas for further research. The goal of the researcher was to raise more questions than answers and influence others to embark on further research into the topic of how to improve college success in the male gender.

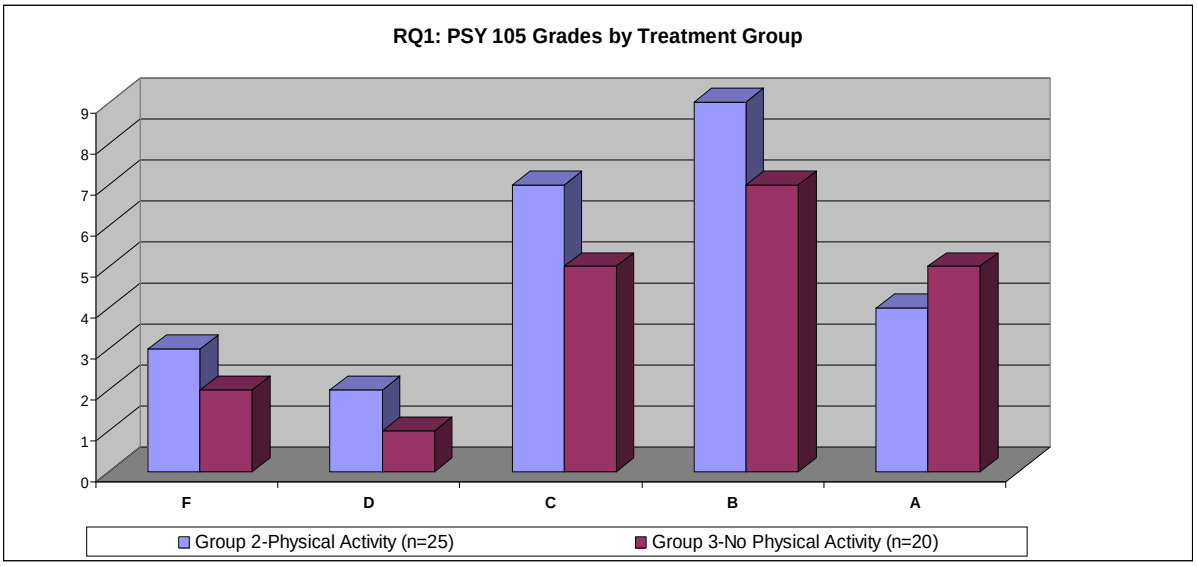
Research Question 1

What influence will the incorporation of a regular physical, organized, group activity have on male students' performance in academic classes?

In order to evaluate the differences that may be due to the physical activity component, treatments 2 and 3 were compared. All sections included in these treatments were taught by a peer instructor, offered a coeducational environment and were linked to the Psychology 105 course. Treatment 2 included an extra physical activity component in addition to everything involved in treatment 3.

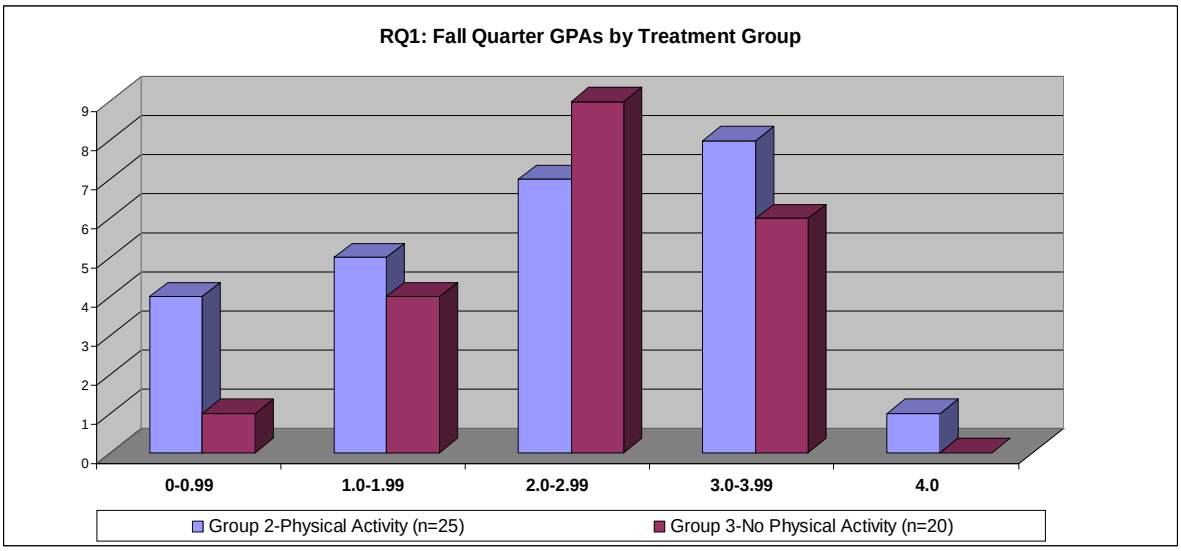
In terms of the Psychology 105 grades, there were no statistically significant differences between the means of the two treatment groups when using an $\alpha = 0.05$ level of significance. Overall the ANCOVA had a $\rho = 0.0558$ and the specific interaction had a $\rho = 0.3152$. As illustrated in Figure 1, the overall shape of PSY 105 grades were relatively consistent in both treatment groups 2 and 3.

Figure 1



When the fall quarter mean GPAs were compared for treatment groups 2 and 3, there again were no statistically significant differences between them when using an $\alpha = 0.05$ level of significance. Overall the ANCOVA had a $\rho = 0.0235$ and the specific interaction had a $\rho = 0.4386$. As illustrated in Figure 2, the overall shape of fall quarter GPAs were similar in both treatment groups 2 and 3 with treatment 2 displaying a slight negative skew and treatment 3 possessing slight positive skew.

Figure 2



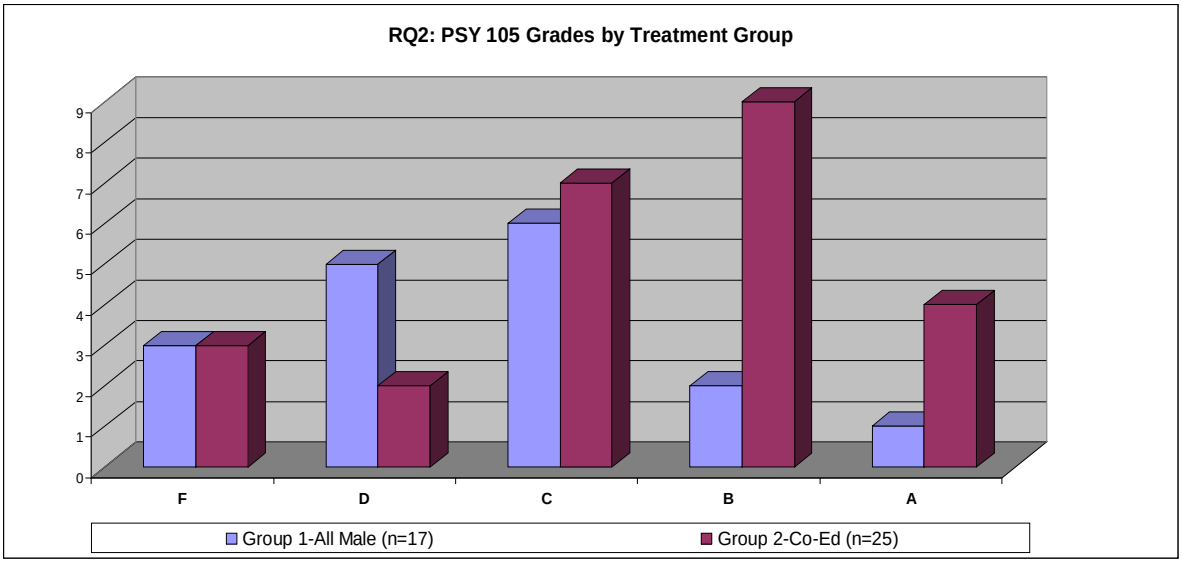
Research Question 2

What effects will learning college success techniques in an all male classroom environment have on GPA?

In order to evaluate the differences that may be due to the single gender classroom component, treatments 1 and 2 were compared. All sections included in these treatments were taught by a peer instructor, consisted of a physical activity component and were linked to the Psychology 105 course. Treatment 1 was single gender – all male, while treatment 2 was coeducational.

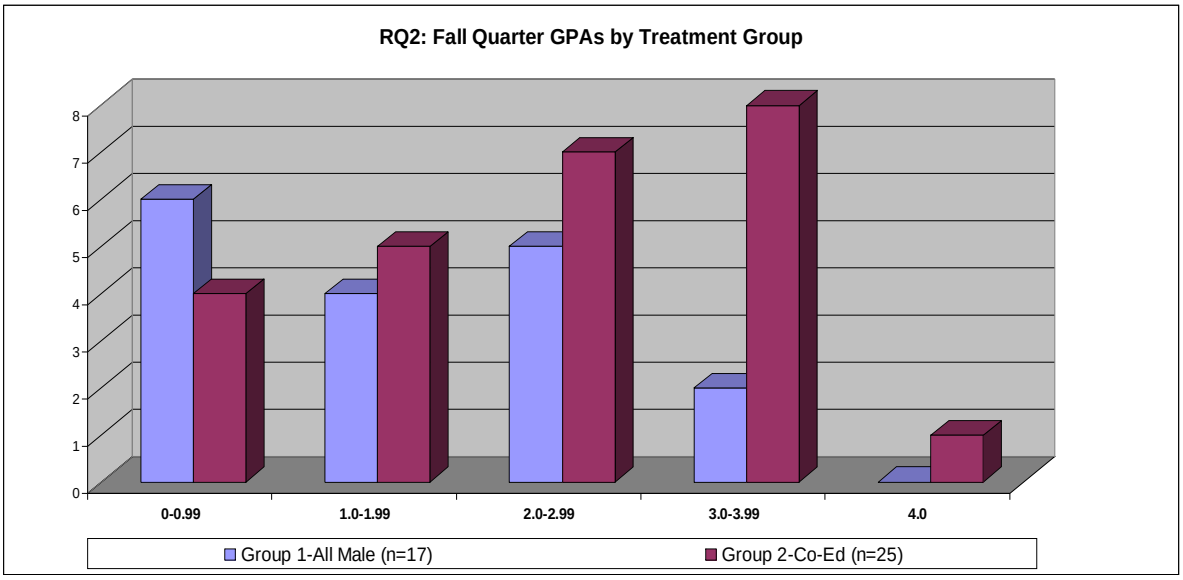
In terms of the Psychology 105 grades, there were no statistically significant differences between the means of the two treatment groups when using an $\alpha = 0.05$ level of significance. Overall the ANCOVA had a $\rho = 0.0558$ and the specific interaction had a $\rho = 0.1208$. While the results were not statistically significant, Figure 3 shows that the overall curves of PSY 105 grades were quite differently distributed between groups 1 and 2.

Figure 3



When the fall quarter mean GPAs were compared for treatment groups 1 and 2, there were statistically significant differences between them when using an $\alpha = 0.05$ level of significance. Overall the ANCOVA had a $\rho = 0.0235$ and the specific interaction had a $\rho = 0.0398$. Figure 4 illustrates how the all male treatment group earned statistically significant lower mean GPAs than the males who were enrolled in the coeducational learning communities. When adjusted for intelligence as measured by the ACT test, treatment group 1 had a mean GPA of 1.63 while treatment group 2 had a mean GPA of 2.26, a difference of 0.63. Actual mean GPAs were 1.57 and 2.31 respectively, with a difference of 0.74.

Figure 4



Additional charts comparing all three treatment groups in terms of fall quarter GPA, PSY 105 grades and ACT Scores can be found in Appendix B.

Summary

The results of this study must be considered in light of the limitations encountered. At face value, it would seem that physical activity and an all male gender classroom have a negative affect on academic success. Due to the limitations discussed in the next chapter, one should be cautious when drawing any conclusions from this study.

CHAPTER V

CONCLUSIONS, RECOMENDATIONS & SUMMARY

Introduction

The topic of a gender gap crisis in higher education has been a debated discussion point for some time now. In the late 1990's Thomas Mortenson, a senior scholar at the Pell Institute, and Jacqueline King, director of the American Council on Education Center for Policy analysis, both released opposing studies and refuting one another in the media (Brownstein, 2000). The disagreement was over the focus and scope of the problem – was there a problem with male success in higher education as Mortenson posited, or were the male-to-female ratios on campuses really a problem of race and socioeconomic status as King argued?

Since 2000 we have seen that both were, in a way, correct. King was using data from the 1995-96 U.S. Department of Education National Postsecondary Student Aid Study to show that the largest gender gaps in traditional age students (10% gap or more) were observed in the minority populations and the lower class (2000). By 2004 the problem had grown to include the middle income white student population which had become 57% female (Vickers, 2006). The California Postsecondary Education Commission reported that in the same year, 2004, the combined systems of California State University and the University of California had females representing 58% of the white students, 64% of the Latino students, and 67% of the black students (as cited in Wilson, 2007).

As the gap continues to grow, the field of higher education must become increasingly more aware of the experiences and challenges its male students face. As student affairs practitioners, there is little we can do to directly affect the number of males enrolling in college. Our primary focus needs be on ensuring that those enrolled, are given the proper support to succeed.

While the current study did not add validity to the claims that physical activity and single gender classes help male students to succeed academically, it did highlight one very interesting insight into male student behavior. This chapter will attempt to convey this insight as well as give recommendation of how to improve the design of this study for future replications.

Conclusions

It is difficult to draw any conclusions from this study in that through the implementation, many unforeseen limitations and uncontrolled variables were discovered. It is the investigator's belief that despite the statistical outcomes of this study, the foundations of the project are in fact relevant and a step in the direction of supporting our male students. The vast majority of conclusions are contained in the limitations and recommendations sections of this chapter.

Limitations

Student Self Selection - As stated previously, one of the major limitations of this study was the self selection sampling procedure. At the time of study design, it was unknown how this limitation would affect the results, but as the summer registrations began to materialize, it became evident that the treatment group 1 course was not filling up. At first this may not seem like a problem but after having taught freshmen seminar

courses at this university for three years I have observed an apparent correlation between registration date and motivation level. This relationship has not been tested but has been a discussion point among instructors for years.

Teaching Differences – While this study attempted to control for this limitation by only including peer instructors (excluding staff instructors of which a majority possess a Master's degree), it was impossible to control for the ways in which individual peer instructors engaged their classes and individual students.

Support Seeking – Through this study and working directly with a class of all male students, the Boy Code injunction of *The Sturdy Oak* became extremely evident. The male students observed by the investigator in this study were in need of academic support at numerous times throughout the term. Yet, despite the urging of the instructor, the students failed to utilize the support services available on campus. The conversations were all very similar in that the student would approach the instructor concerned with his performance in another course. The instructor would listen to the problem and suggest that the student go to support service '*x*'. The student would inquire about more details such as location, hours, services and costs, and then promise to go. Upon follow-up, the instructor would discover that the student never sought out the assistance and decided to go it alone.

At some point after the student sought out the advice of the instructor, the system of support broke down. The Boy Code injunction of *The Sturdy Oak* was overcome in that the student came to the instructor for advice, an act of admitting that one is not an expert or knows best in the current situation (Pollack, 1998). The question is: *Why did he not utilize the support service available and suggested?*

Through observation it became apparent that these young men needed to feel as if they belonged. They had built a relationship of trust and understanding with their instructor and felt comfortable asking him for help. The support system broke down when the students were asked to admit that they needed help to a stranger. These students were still in the early stages of Chickering's third vector, *moving through autonomy toward interdependence* (Evans, Forney & Guido-Dibrito, 1998). They had not yet come to embrace the ideal of interdependence and the fact that using the resources that are available is not the same as admitting that they can not do it themselves.

Recommendations

This topic of a gender gap and support services targeted at the male population in and of itself is in need of further research and attention. In retrospect, after having completed the study and having had the experience of working closely with a group of young men, it seems necessary to conclude that this study may have been inappropriately designed in theoretical construct. In sum, the physical activity and an all male gender classroom environment should not have been the primary tools used to help create a connection between these men and the institution.

Recommendation 1 – It is recommended that in regards to Student Affairs practitioners, further research is needed to investigate how well support services engage the males on campus. What are the perceptions of student support services by males and how do these perceptions correlate to the utilization of such services? If males perceive such support services as admitting that they can not do it themselves, are they likely to use the service? How do masculinity and other variables related to being a male student affect their success in higher education? How can we, as practitioners, encourage male

students to use the campus resources that are available to them while helping them to develop and grow as men? The current study may have some interesting ideas regarding programs that might be utilized in this pursuit, but further research is needed as well as refinement of the processes in which they are delivered.

Recommendation 2 – It is recommended that for those engaged in learning communities and other programs that teach student success practices, the need to foster an environment free from shame and judgment is paramount. As evidenced by the unwillingness of the male students in this study to utilize the support services available to them, shame, or more importantly the fear of shame, can disconnect male students from the support they need most. When designing and implementing programs such as learning communities, those in control need to remain conscientious of such things as shame and judgment which can poison a positive and inclusive educational community.

Recommendation 3 – It is recommended that further research be conducted on the effects of positive male mentoring programs – both formal and informal – as well as emotional safe-zone projects. Such a study should focus on the interactions that occur between the student and mentor.

Summary

In terms of encouraging male success in higher education, an effective male engagement program might be an extremely valuable. Such a program could include various elements including a formalized mentoring program, an aspect of physical challenge that requires teamwork and inter-dependency as well as a safe-space setting where such topics as what it means to be a man in this society can be discussed. These

young men need to understand that they are not the only ones having these feelings and difficulties.

This study was designed to investigate the effects of weekly physical activity within the context of a first-year freshman seminar experience as well as the effects of an all-male classroom experience on academic success. In the end, this study has served as an investigation into how we as student affairs practitioners can engage our male students. It has highlighted some of the intricacies of the issues that our male students are dealing with as well as a major gap in how we deliver support services to them.

The most beneficial thing to be taken from this study is awareness. Awareness that as described in the literature review, masculinity is a gender – that it is yet another lens through which to see the world. Just as feminism, race, religion, sexual orientation and other factors influence how our students view their world, masculinity is also a factor. When a male student perceives that asking for assistance is admitting that he can not do it on his own and this to him is a source of shame, his masculinity is hindering success. Through investigation and understanding of what it means to be masculine on today's college campuses, we as practitioners can learn how to engage and support our male students, increasing the likelihood of not just their success but our own.

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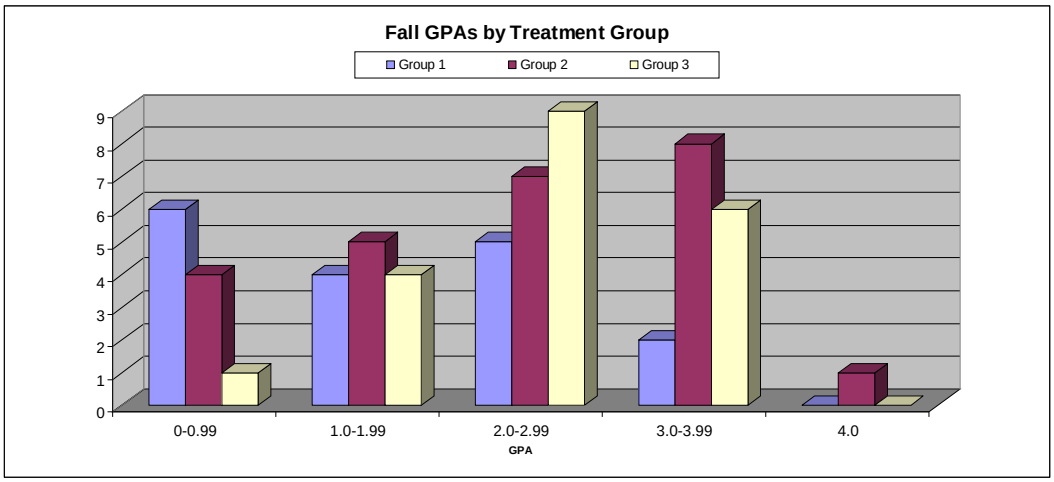
Appendix A

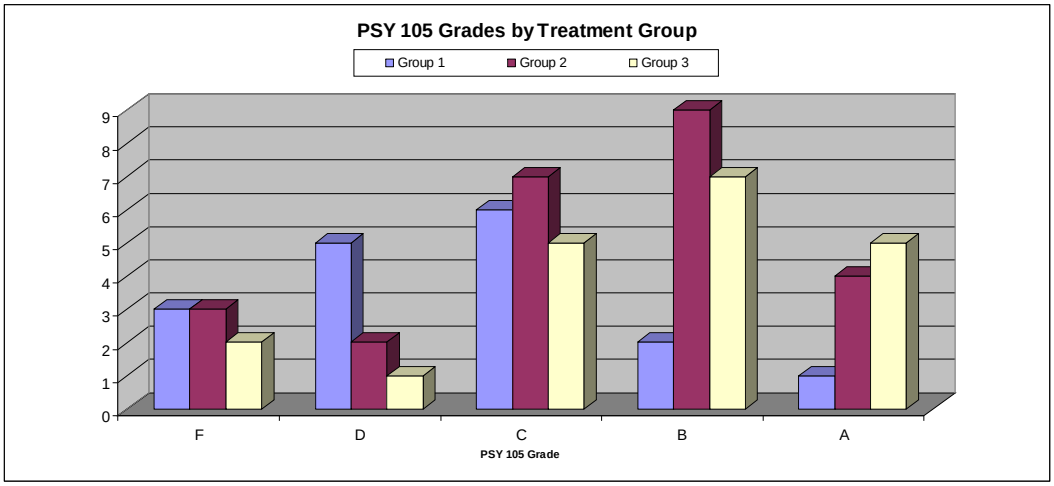
SAT-to-ACT Score Conversion Chart

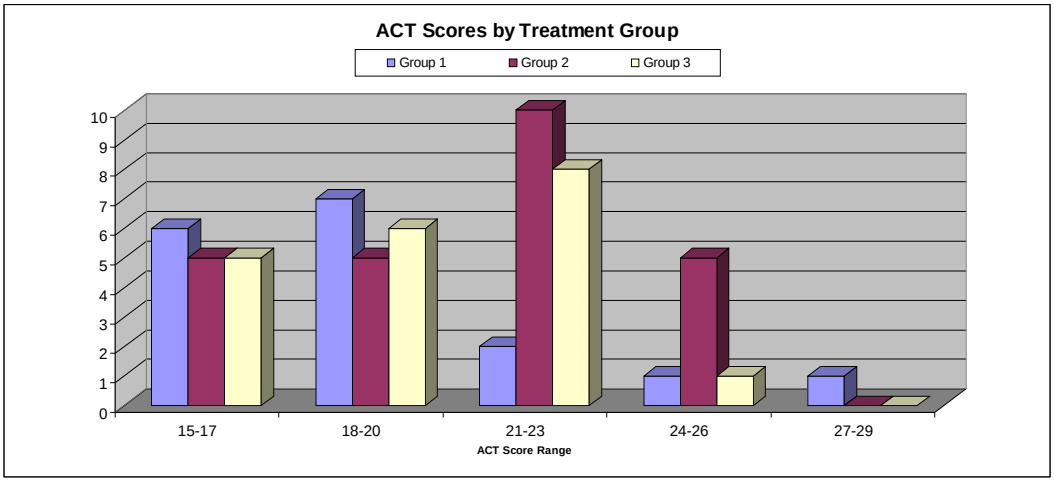
SAT Score (Critical Reading + Math)	ACT Equivalent (Composite)
1600	36
1560-1590	35
1510-1550	34
1460-1500	33
1410-1450	32
1360-1400	31
1320-1350	30
1280-1310	29
1240-1270	28
1210-1230	27
1170-1200	26
1130-1160	25
1090-1120	24
1060-1080	23
1020-1050	22
980-1010	21
940-970	20
900-930	19
860-890	18
810-850	17
760-800	16
710-750	15
660-700	14
590-650	13
520-580	12
500-510	11

Appendix B

Additional Comparison Charts







Appendix C

ANCOVA of Fall Quarter GPA with ACT as Co-Variant Printouts

A = treatment group

Treatment 1: All Male Class with Physical Activity (17 observations)

Treatment 2: Co-Ed Class with Physical Activity (25 observations)

Treatment 3: Co-Ed Class without Physical Activity (20 observations)

X = Co-Variant (ACT Score)

Y = Dependent Variable – Fall Quarter GPA

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The GLM Procedure

Dependent Variable: y

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	11.57809105	2.31561821	2.55	0.0380
Error	56	50.91120616	0.90912868		
Corrected Total	61	62.48929721			

R-Square	Coeff Var	Root MSE	y Mean
0.185281	44.10857	0.953482	2.161672

Source	DF	Type I SS	Mean Square	F Value	Pr > F
a	2	8.47615383	4.23807692	4.66	0.0134
x	1	2.69279575	2.69279575	2.96	0.0908
x*a	2	0.40914146	0.20457073	0.23	0.7992

Source	DF	Type III SS	Mean Square	F Value	Pr > F
a	2	0.20145119	0.10072560	0.11	0.8953
x	1	2.95203344	2.95203344	3.25	0.0769
x*a	2	0.40914146	0.20457073	0.23	0.7992

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The GLM Procedure

Dependent Variable: y

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	11.16894958	3.72298319	4.21	0.0092
Error	58	51.32034762	0.88483358		
Corrected Total	61	62.48929721			

R-Square	Coeff Var	Root MSE	y Mean
0.178734	43.51521	0.940656	2.161672

Source	DF	Type I SS	Mean Square	F Value	Pr > F
a	2	8.47615383	4.23807692	4.79	0.0119
x	1	2.69279575	2.69279575	3.04	0.0864

Source	DF	Type III SS	Mean Square	F Value	Pr > F
a	2	7.08582396	3.54291198	4.00	0.0235
x	1	2.69279575	2.69279575	3.04	0.0864

The GLM Procedure
Least Squares Means

a	y LSMEAN	Standard Error	Pr > |t|	LSMEAN Number
1	1.62861523	0.23060122	<.0001	1
2	2.26441324	0.19034925	<.0001	2
3	2.48634255	0.21047690	<.0001	3

Least Squares Means for effect a
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: y

i/j	1	2	3
1		0.0398	0.0078
2	0.0398		0.4386
3	0.0078	0.4386	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned
comparisons should be used.

Appendix D

ANCOVA of Psychology 105 Scores with ACT as Co-Variant Printouts

A = treatment group

Treatment 1: All Male Class with Physical Activity (17 observations)

Treatment 2: Co-Ed Class with Physical Activity (25 observations)

Treatment 3: Co-Ed Class without Physical Activity (20 observations)

X = Co-Variant (ACT Score)

Y = Dependent Variable – Psychology 105 Score

0 Grade of F

1 Grade of D

2 Grade of C

3 Grade of B

4 Grade of A

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The GLM Procedure

Dependent Variable: y

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	18.78215471	3.75643094	2.77	0.0266
Error	56	76.05655497	1.35815277		
Corrected Total	61	94.83870968			

R-Square	Coeff Var	Root MSE	y Mean
0.198043	52.35847	1.165398	2.225806

Source	DF	Type I SS	Mean Square	F Value	Pr > F
a	2	10.16106262	5.08053131	3.74	0.0299
x	1	8.24551926	8.24551926	6.07	0.0168
x*a	2	0.37557284	0.18778642	0.14	0.8712

Source	DF	Type III SS	Mean Square	F Value	Pr > F
a	2	0.02566757	0.01283379	0.01	0.9906

```
      x                         1      8.34944473      8.34944473
6.15    0.0162
      x*a                       2      0.37557284      0.18778642       0.14

0.8712
```

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The GLM Procedure

Dependent Variable: y

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	18.40658187	6.13552729	4.66	0.0055
Error	58	76.43212780	1.31779531		
Corrected Total	61	94.83870968			

R-Square	Coeff Var	Root MSE	y Mean
0.194083	51.57468	1.147953	2.225806

Source	DF	Type I SS	Mean Square	F Value	Pr > F
a	2	10.16106262	5.08053131	3.86	0.0268
x	1	8.24551926	8.24551926	6.26	0.0152

Source	DF	Type III SS	Mean Square	F Value	Pr > F
a	2	7.99773669	3.99886834	3.03	0.0558
x	1	8.24551926	8.24551926	6.26	0.0152

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The GLM Procedure
Least Squares Means

a	y LSMEAN	Standard Error	Pr > |t|	LSMEAN Number
1	1.69075589	0.28141988	<.0001	1
2	2.27155228	0.23229740	<.0001	2
3	2.62341715	0.25686067	<.0001	3

Least Squares Means for effect a
Pr > |t| for H0: LSMean(i)=LSMean(j)
Dependent Variable: y

i/j	1	2	3
1		0.1208	0.0171
2	0.1208		0.3152
3	0.0171	0.3152	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned
comparisons should be used.