Development of Self Esteem and Learning Skills in Students Participating in the Army Junior Reserve Officers Training Corps (JROTC)

Ruben O. Rivas

Loyola University Chicago

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LOYOLA UNIVERSITY CHICAGO

DEVELOPMENT OF SELF ESTEEM AND LEARNING SKILLS IN STUDENTS PARTICIPATING IN THE ARMY JUNIOR RESERVE OFFICERS TRAINING CORPS (JROTC)

A DISSERTATION SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL IN CANDIDACY FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF CURRICULUM, INSTRUCTION AND EDUCATIONAL PSYCHOLOGY

BY

RUBEN O. RIVAS

CHICAGO, ILLINOIS

MAY 1995
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made a fuss. So to my wife of over 20 years, Janie; my oldest son, Michael; my namesake, Ruben Jr.; my only daughter, Jennifer; and my baby, Vincent THANK YOU! And finally to the one individual who cannot read this but deserves as much thanks as anyone else, my dog Princess. Throughout the years regardless of my mood, location, time of day, (and very often night), I could count on you for company. If you could only type we would have been done long ago!

In summary, there is an old saying which postulates that the acorn doesn't fall far from the oak. As the only son of parents who never attended high school, let alone graduate high school, this 'acorn' has grown legs and walked out of the forest leaving it far behind. My dreams and prayers are that one day my own 'acorns' grow their own legs and travel farther than I.
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CHAPTER 1
INTRODUCTION AND OVERVIEW

Introduction

Statistics indicate an upward trend in crimes committed by young, urban children in today's inner city (Youth Indicators, 1993). Serious crimes committed by younger people are no any longer unusual. Quite the contrary they are becoming the norm. An 11 year old male gang member indiscriminately guns down an innocent 14 year old girl only to later be gunned down himself by his own gang (Chicago Tribune, 1994). This one incident illustrates the savagery existing in our streets and often carrying over into our schools.

As parents, teachers, clergy, and politicians cry for help and change, one program already in place has had a positive impact on many young men and women for decades. This program is the Army Junior Reserve Officers Training Corps (JROTC) program. Army JROTC complements the curricula and overall educational programs in over 850 of America's high schools, offering student's a unique opportunity for personal growth.

The positive influence of the Army JROTC program can readily be seen within the Chicago Public School System in several different areas (Chicago Public School System Annual Report, 1991).

Student participation in Army JROTC program in 1991 was just over 11.0% 6,014 students from a total student population of 51,675. The subsequent year, 1992, the number dropped slightly with an 11.1% participant rate 5,917, from a total student population of 53,264. (See Table 1.)

One of the first areas to note the positive effect of the program was the academic area as illustrated by the students' grade point average (GPA). The students in the JROTC
program averaged a 2.38 GPA versus a 2.11 GPA for non-participants. This positive trend in GPA increased in 1992. In 1992 JROTC participants attained a mean 2.45 GPA versus a 2.11 GPA for non-participants.

GPA was definitely not the only area in which students in the JROTC program differentiated positively from the population. In 1991 and 1992, non-participants graduated at an 84.7% and 84.6%, respectively, versus a 96.3% and 96.2% graduation rate for JROTC participants. Of particular note is that, in some high schools Army JROTC students graduate at a rate greater that 20% than the rest of the high school population (Department of the Army, 1994).

American College Test (ACT) scores were also similarly positively effected. Non-participants scored 14.8 and 15.89 on the ACT in 1991 and 1992, respectively, whereas participants scored 16.5 and 16.79.

Given today's malevolent, young society perhaps one of the better, if not the best, positive indicator of the Army JROTC program is the difference in discipline infractions between participants and non-participants. In 1991 and 1992 minor discipline infractions numbered 6.41 and 6.71 respectively per high school JROTC non-participants. Compare this to 2.43 and 2.22 ratio for participants in the Army JROTC program. In the same two year period, major discipline infractions numbered 2.66 and 3.25 per high school for non-participants versus the Army JROTC program participants numbers of 1.23 and 1.20 respectively. Across the board and in terms most used to measure high school success, the Army JROTC is a positive influence.
Table 1.--Comparison of JROTC Cadets to the Total School Population on Particular System-Wide Objectives

<table>
<thead>
<tr>
<th></th>
<th>High School Population</th>
<th>JROTC Cadets</th>
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<tbody>
<tr>
<td>Enrollment</td>
<td>51,675</td>
<td>53,264</td>
</tr>
<tr>
<td>GPA</td>
<td>2.11</td>
<td>2.15</td>
</tr>
<tr>
<td>Graduation rate</td>
<td>84.70%</td>
<td>84.60%</td>
</tr>
<tr>
<td>ACT Composite</td>
<td>14.8</td>
<td>15.89</td>
</tr>
<tr>
<td>Discipline Infractions</td>
<td>Minor</td>
<td>6.41</td>
</tr>
<tr>
<td></td>
<td>Major</td>
<td>2.66</td>
</tr>
</tbody>
</table>

Mission

From its inception the stated mission of the Army JROTC program is "To motivate young people to be Better Americans" (Department of the Army, 1992). This mission is accomplished by following the military theories of Karl von Clausewitz which state that war is a political act that should be directed by the political leaders of a nation who should reduce military operations to a science and provide public and private high school students opportunities for leadership development (Clausewitz, 1833). Today's JROTC program seeks to train students in leadership by developing in each student:

- Better citizenship
- Self-reliance
- Responsiveness to constituted authority
- Knowledge of basic military skills
- Leadership
- Appreciation of the role of the United States Army in support of national objectives
- Ability to communicate effectively
- Appreciation of the importance of physical education in the accomplishment of these objectives

The Army JROTC program provides high school students the positive support, leadership, and motivation that will serve them during their high school years as well as throughout their lives.

Benefits

The benefits of the Army JROTC program are a valuable addition to any high school educational program (Army JROTC, 1994). The major benefits of the Army JROTC program are:

- Motivates students to learn in all of their classes;
- Fosters in students a disciplined and constructive learning atmosphere;
- Instills in students essential learning skills, such as time management, planning and organization, responsibility, goal setting, and teamwork;
- Provides extracurricular activities that build students' self confidence and enhance their involvement with their peers, high school, and community.

Curriculum Overview

The Army JROTC program curriculum consists of one hundred and eighty (180) hours of instruction per school year (Department of the Army, 1992). This curriculum is taught over a period of three to four years with one period of the Army JROTC instruction being conducted each school day. Curriculum adjustments are made for high schools with less than 180 school days. Curriculum adjustments may also be made for non-traditional schedules as long as the academic requirements are the same as for any other one credit course. The 180 hours of instruction are divided into 108 hours of core
courses and 72 hours of elective or optional courses. The 72 hours of elective course hours allow the program the flexibility to tailor itself to the unique needs of the students and their high school. The 108 hours of core courses are identical in all Army JROTC programs throughout the world. A more general breakdown of a typical Army JROTC program of instruction is follows:

- Core classes -- 108 hours.
- Optional classes -- 42 to 45 hours
- Testing -- 12 to 15 hours
- Administrative requirements -- 15 hours

The following is a more detailed breakdown of the 108 hours of core classes:

- Spirit of American Citizenship and Army JROTC -- 15 hours,
- United States Constitution and Citizenship -- 8 hours,
- Communication Techniques -- 10 hours,
- Leadership Classes -- 10 hours,
- Leadership Lab (drill and ceremony, wearing of the uniform) -- 33 hours,
- Cadet Challenge (physical fitness) -- 10 hours,
- First Aid and Health -- 5 hours,
- Drug Abuse Prevention Program -- 5 hours,
- Map Reading -- 5 hours,
- Overview of American Military History -- 7 hours.

The Army JROTC program instructors are allowed to select subjects from an approved list to fulfill the 72 hours of elective course work. This flexibility allows the JROTC program instructors, working in conjunction with school officials, to tailor the Army JROTC program based on the uniqueness of the students, high school, and local community. Some of the approved subjects which may be taught are:

- Marksmanship and Safety,
• Ceremonial Drills,
• Communicative Arts,
• Contemporary Issues,
• Consumer Education and Budgeting,
• Cardiopulmonary Resuscitation (CPR).

Categories

All students participating in the Army JROTC program are categorized by level and are given the designator LET. The term LET is defined as Leadership, Education, and Training. Therefore, in a fully established Army JROTC program, a LET 1 is a first year participant in Army JROTC program and normally a high school freshman. A LET 2 is a second year participant in Army JROTC program and normally a high school sophomore. A LET 3 is a third year participant in Army JROTC program and normally a high school junior. And finally, a LET 4 is a fourth year participant in Army JROTC program and normally a high school senior.

The Army JROTC program uses a systematic progression approach to teaching designed for the cadet's development at each level. Generally, at the basic LET levels, 1 and 2, the majority of instruction is teacher led with students taking an active part in the instruction. At the advance level the program builds on instruction already conducted and the LET 3's and 4's are given the opportunity to demonstrate their ability to prepare and conduct instruction by functioning as assistant instructors for various classes. This systematic progression approach allows the older and more mature students to mentor and assist the younger students in a variety of subjects and classes. Student learning is positively reinforced through the use of a system of tangible rewards for accomplishment. Some of these tangible rewards are:

• Promotions,
• Ribbons,
• Medals,
• Honors,
• Appointment to the drill team and/or color guard.

**Self-Esteem and Learning Skills Development**

By design, the Army JROTC initiates the development of self-esteem and learning skills early on in the program of instruction. Initiated during the LET 1 year, and building on in succeeding year, self-esteem and learning skills are addressed from different aspects and in different core blocks of instruction.

Self-esteem is first introduced to students in the Techniques of Communication block of instruction. In this portion of the curricula each student is required to prepare and give an effective three to five minute oral presentation to his classmates (LET 1 Manual, 1984). Topic approval is required of the student prior to the actual presentation. In many cases students have had little or no experience speaking in front of a large group of people and therefore have not had opportunity to experience the positive aspects of successful speech making.

Self-esteem is further addressed in the Leadership block of instruction. In the first leadership block, students are taught the four basic parts of a person's self (LET 1 Manual, 1984):

- Self Image,
- Ideal Image,
- Looking Glass Self,
- Real Self.

With the basic foundation of a person's self laid out, students are encouraged and guided to become more self-aware. Instilled with this personal development and increased level of self-awareness students are directed to change the negative aspects of their
personality into positive aspects. This increased positive self-image level of the students induces the students' self-esteem to also increase.

The greatest impact and most overt influence Army JROTC has on students' self-esteem is during the Leadership Lab block of instruction (LET 1 Manual, 1984). In this huge core block of instruction, thirty three classroom hours per school year, students gain a knowledge of the history and reasons for drill, the roles of the drill participants, and the leadership skills of drill leaders. Most influential during this block of instruction is the student's wearing of the Army JROTC uniform. The proper wearing of the uniform, to include proper placement of awards, decorations and insignia, enables students to project an extremely positive self-image to peers, teachers, parents and others. This increased positive self-image also increases the students' self-esteem level.

The initial development of learning skills is also addressed early in the LET 1 year. In the Spirit of American Citizenship block of instruction, students are introduced to the concepts of goals, the six steps of goal setting, and the concepts of time management and planning (LET 1 Manual, 1984). Goals, by LET 1 definition, are an aim or purpose; an end to which effort is directed. Goals are further divided into three separate categories:

- Short-term goals,
- Mid-term goals,
- Long-term goals.

Short-term goals are defined as goals which may be accomplished in a short amount of time; hours, days or even a week, and do not require much planning. A short time goal may be a start or initial phase of a mid-term or long-term goal. A mid-term goal is defined as one of intermediate length and requiring some planning. A mid-term goal, like a short-term goal, may be a step or phase to a long-term goal. A long-term goal, on the other hand, requires a significant amount of planning and time and may encompass
several short and mid-term goals. It is not uncommon for a long-term goal to be also a life goal. (Obtaining a doctorate definitely falls into this category!)

With goals defined and categorized, the program further instructs students in the six steps of proper goal setting. The six steps of proper goal setting are identified as:

- Select a goal,
- Identify a solution,
- List steps for completing the solution,
- Explain how you will carry out the solution,
- Follow through, and
- Evaluate your solution.

Goal setting is further explained and defined as an ongoing process which requires continual re-evaluation by the students. This continual feedback allows students to adjust their goals as needed.

However, the key to successful goal setting by the students is effective time management (LET 1 Manual, 1984). Time management is defined as the process of effectively using time to gain control of events, conditions, or actions. The process of time management basically follows the same steps of goal setting. The four phases of successful time management are:

- Identify what needs to be done by when,
- Assess the reality of completing the task,
- Make a written or mental plan of action,
- Set up a realistic schedule to complete the task.

Students are further instructed that the key to effective time management is planning. Planning is defined as the ability to make or carry out action to achieve an explicit purpose (LET 1 Manual, 1984). The key for students to develop learning skills is in the instruction and reinforcement in students of the importance of organizing goal
setting and time management into a realistic and effective plan which provides the students the best opportunity for success in all their endeavors.

Self-esteem and learning skills, having been introduced during the LET 1 year, are further addressed during the LET 2 and 3 years. In each succeeding year the skills are developed and built upon with a combination of both variables being utilized in mutually supportive activities during the LET 4 year.

During the LET 4 year students are required to demonstrate their development of these learning skills with several program goals. During the Techniques of Communication block of instruction students must now demonstrate the ability to plan, prepare, conduct, and critique classroom instruction (LET 4 Manual, 1984). Additionally, the students are required to address a civilian or military audience on a subject of common knowledge within the program. This is a huge step upward from the initial requirement during the LET 1 year of only making a three-to-five minute presentation. The positive development and upward progression of self-esteem allows for students to readily accomplish this goal. A student's low self-esteem level would hamper, if not precluded, this accomplishment.

Goal setting and planning have been specifically addressed in the LET 2 and 3 years in the Career Opportunities block of instruction (LET 3 Manual, 1984). During that period of time, students have been introduced to the importance of developing a career exploration strategy and how to identify the elements of that strategy. Students were also instructed in the steps which should be taken to apply and enroll in a college or university and the various methods for obtaining information about those colleges and universities. Finally, during the LET 4 year students are instructed in techniques on how to merge into a working society (LET 4 Manual, 1984). This is accomplished by introducing students to the importance of and must demonstrate the ability of completing a job application properly, of writing resumes and cover letters. Additionally, how to read and interpret
Learning skills and self-esteem all come together and are intertwined and mutually supportive in the Leadership and Leadership Lab core block of instruction during the LET 4 year. At this point, the students are no longer followers within the organization but have ascended to become the leaders. As senior members of the cadet battalion, the LET 4 students are assigned to command or staff positions within the battalion. The students are now required to demonstrate the ability to plan, organize, prepare, conduct, and evaluate virtually all functions and operations of the battalion (LET 4 Manual, 1984). These functions and operations include, but are not limited to, conducting staff briefing, preparing and presenting staff reports, and acting as coaches and mentors for the younger cadets.

A capstone event for many Army JROTC programs is a military ball. This social event is often the highlight of the school year for both the LET 4s and the entire school. The cadet battalion staff is wholly in charge of this event and is responsible for all facets of its execution to include but not limited to:

- Negotiating and contracting for catering,
- Negotiating and contracting for a location,
- Collecting and accounting for all moneys,
- Invitations, seating arrangements, and decorations, and
- Conducting an After-Action Review of the ball.

The Army JROTC program truly does an exceptional job of introducing students to self-esteem and learning skills and then allows those students the opportunity of implementing and utilizing those variables in a multitude of manners and ways to achieve both personal and academic goals.
Hypotheses

Given the broad based, multi-variate implications and effects of the Army JROTC program on students, this experiment will limit itself to study only two variables: development of self-esteem and learning skills. The focus of this experiment is to examine this development in two recently initiated high school programs in which students are only at the basic level, LET 1, in comparison to two other well established programs in which students are at the advance level, LET 3s and LET 4s. Null hypothesis 1 hypothesizes no significant difference in self-esteem development between students in the basic level and advance level program. Null hypothesis 2 hypothesizes no significant difference in learning skills development between students at the basic level and the advance level. Null hypothesis 3 hypothesizes no significant difference in self-esteem development in students participating in the Army JROTC programs over a six month period. Null hypothesis 4 hypothesizes no significant difference in learning skills development in students participating in the Army JROTC programs over a six month period. Null hypothesis 5 hypothesizes no significant difference in self-esteem development in students participating in the Army JROTC programs based on the student's gender. Null hypothesis 6 hypothesizes no significant difference in learning skills development in students participating in the Army JROTC programs based on the student's gender.
CHAPTER 2
REVIEW OF LITERATURE

Overview

The review of literature for this study will examine three major aspects: 1) A perspective on the Army's JROTC program will be given; 2) JROTC's history from its inception to its present day status and comparative views as to the benefits of the program will be reviewed; 3) similar and contrasting viewpoints on the definition of self-esteem, effect and importance of self-esteem and the importance of self-esteem improvement will be examined. An in-depth discussion of learning skills in terms of goal setting, time management, and planning and organizational skills will also be conducted.

History of Army JROTC

Prior to 1916, Army military officer training was conducted solely at land grant universities (History of ROTC Curriculum, 1971) and at the United States Military Academy at West Point, New York (For the Common Defense, 1984). However, due to the foresight and tenacity of Major General Leonard Wood, the Army Chief of Staff from 1910 until 1914, the National Defense Act of 1916 was signed into law (History of the United States Army, 1967). With the signing of the National Defense Act the United States Congress established the JROTC program. Within the Act "The President is hereby authorized to establish and maintain in civil educational institutions a Reserve Officers Training Corps, which shall consist of a senior division organized at universities and colleges requiring four years of collegiate study for a degree . . . and a junior division organized at all other public or private educational institutions . . . " (Congressional Record, 1916). Specifically, within Title 10, United States Code, Section 2031 each
service is required to establish a JROTC program and these established units must be
equitably distributed throughout the nation. Additionally, this act requires each Service
Secretary to establish and maintain a JROTC program while they may establish a Senior
ROTC program.

During the 1919-1920 school year, the program's first school year of
implementation in high schools, 45,000 students were enrolled in the JROTC program. In
succeeding years the student population continued to grow. However, from 1947 through
1964 JROTC participation was capped at 60,000 students (History of ROTC Curriculum,
1971). In the school year 1992-1993, the total student population participating in the
program exceeded 126,000 students. This total student number is expected to increase
significantly due to the expansion plan currently being implemented throughout the nation.

The Army JROTC consistent value and positive influence in the American school
system prompted the 98th United States Congress in 1964 to expand the program. This
precipitated the signing into law the Reserve Office's Training Corps Vitalization Act of
1964 (Congressional Record, 1964). This law not only expanded the total number of high
schools hosting this program to over eight hundred and fifty (850), it additionally allowed
for the first time the participation of females into the Army JROTC program, which up
until this point had been restricted to participation only by males.

In 1991, the Army JROTC program was in place and operational in the United
States, Puerto Rico, American Samoa, United States Virgin Islands, Commonwealth of
the Northern Marinas Islands, and Department of Defense Schools in Germany, Panama,
Korea, and Japan (Department of the Army, 1992). In 1991 President Bush asked the
Chairman of the Joint Chiefs of Staff, General Colin Powell, how the military could effect
America's education. General Powell identified and noted the positive impact of the Army
JROTC on young men and women nationwide. President Bush then directed the Army to
expand the total size of Army JROTC programs by one hundred percent (100%) between
schools years 1994 and 1998 (Department of the Army, 1991). The projected expansion program has two hundred (200) high schools establishing an Army JROTC program in the first three (3) years and one hundred (100) programs in the final two years for a new target total size of 1700 operational JROTC programs.

Benefits of the Army JROTC program

The JROTC program has received vary degrees of support since its implementation in 1916 (Reserve Officers' Training Corps Study Group Final Report, 1986). On August 28, 1991 Alex Woods, from the United States Department of Education, in an open statement distributed at 3rd Brigade Headquarters, 4th ROTC Region, Presidio of San Francisco, commented on the benefits of the Army JROTC program. He state:

The long-range 'Desired Learning Outcomes' of the JROTC program closely match several of the President's national goals for education as well as many objectives funded under the School Dropout Demonstration Assistance Program. There are many advantages to such a military structured program.

Some of these advantages are:

The provision of positive role models at a critical time in an at-risk student's life. For many of these students, thoughts of dropping out of school begin as they enter high school because they are near the permissible age to drop out. To become an active part of an organized unit may be the deciding factor to remain in school.

The opportunities to develop leadership potential and how to live and work cooperatively with others are attainable. Students who continue in advance years of training (Levels 3 and 4) themselves become role models for younger students (and in many cases, their own siblings).
The high performance expectations established in this program often provide the disciplinary structure lacking in a student's home life, where he/she learns to appreciate the ethical values and principles that underlie good citizenship which include integrity, responsibility, and respect for constituted authority.

Group participation in drill practices provides an opportunity for camaraderie as well as an emphasis on physical fitness in maintaining good health. Students learn to be well groomed and to follow instructions and commands.

Along with other school programs on drug abuse, JROTC will reinforce the dangers of substance abuse in a group atmosphere which provides positive support in avoiding peer pressure.

There is a definite correlation to social studies curriculum as students are taught the skills of good citizenship and the historical significance of the military in American history. Students who learn discipline in the program often establish a positive tone in the total school population, thereby reducing disciplinary problems in the classroom and on school grounds.

The presence of a JROTC unit can become a source of pride for any community equal to sports teams, marching bands, etc., who get high exposure at parades and school functions. These "positive strokes" are desperately needed by many at-risk students who seek acceptance into a group.

Class work in JROTC also teaches logical thinking skills and communication skill. For example, exercises in map reading incorporate geography as well as mathematics logic as students are given hypothetical situations for survival. Such exercises provide hands-on, logic challenging learning opportunities which most students enjoy.

Many students graduating from our high schools today are pursuing military careers as they seek specialized, technological training. JROTC programs
provide educational and vocational opportunities (a real purpose) to at-risk students who questions "Why should I Stay in School?"

One of the courses of study in the program is Marksmanship and Safety. At a time when gun control is a popular topic, such a program is ideal for teaching students proper techniques of firearms and the dangers they represent (and students have great fun in this course and receive immediate feedback).

The benefits stated by the United States Department of Education simply reinforced the results of several studies on JROTC programs. Polson's findings suggested that participation in the JROTC program is not associated with any anti-democratic style and conservative ideology, but rather participation in the JROTC program is positively related to healthy self-esteem development (Polson, 1987).

In a 1984 study by Harrile data was obtained from 160 high school principals hosting Army JROTC programs in the states of Alabama, Arkansas, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas (Harrile, 1984). The results indicated that principals were in general agreement with all official Army JROTC objectives as both ideals and current practices at their schools. The principals also indicated a favorable attitude toward the other various aspects of the program and identified the follow specific benefits of Army JROTC participation:

- Development of self-discipline,
- Improvement of self-concept,
- Provision of a source of identification,
- Serves the community by acting as bridge between the school and the community.

Teachers and administrators in the Washington D.C. public schools unanimously said the JROTC program enhanced the school curriculum (Carruthers, 1990). Data collected during the school year 1987-88 from the Washington D. C. public schools
showed that JROTC program participants graduated at a rate of 94 percent as compared to 75 percent for non-participants. Additionally, JROTC participants had a healthier attitude toward high school completion and used less alcohol and fewer drugs than their non-participant peers. One final, positive result of this 1990 study was the identification of a positive correlation existing between the completion of the JROTC program and enhanced job opportunities. Employers believed that students were well prepared for civilian jobs based solely on the fact that they had had JROTC instruction.

However, not all studies or opinions support and reflect a positive light on the JROTC program. In 1984, Christopher Bogden collected data on two separate JROTC programs: one sponsored by the Marine Corps and the other sponsored by the Air Force (Bogden, 1984). The intent of this study was to focus on the perceived value and the realities of the JROTC program. This study was accomplished primarily through the use of semi-structured data collection. The respondents in this study included school administrators, school committee members, teachers, counselors and students. The results which emerged from analyzing this data suggested that JROTC programs can be characterized as having changing goals and poorly defined processes.

A more recent and much more anti-JROTC stance was taken by Linda Rocawich in February, 1994 (The Progressive, 1994). In this paper Rocawich questions the need, usefulness, and appropriateness of getting the military into public schools and doing unmilitary acts. She asks, "Since when does the Air Force know how to run a preschool? And since when did we want it to try?" Continuing in this vein the Rocawich contends that JROTC with its co-optation of Department of Education funds looks a lot like an attempt to create a military class whose indoctrination begins in the ninth grade. When asked about the mission of the JROTC program "To motivate young people to be Better Americans" Rocawich replied that the claim that these programs, JROTC, are not about recruitment, are not meant to predispose kids toward the notion that the military life is the
great life, is simply a lie. In essence Rocawich believes that parents, students, and teachers should become activist and advocates for improvements in education and for improved funding in education. For this citizens are needed not soldiers.

Since its inception in 1916 the JROTC has had varying degrees of support ranging from unanimously positive, the Washington D. C. high schools, to the almost militant anti-JROTC position, Linda Rocawich. Regardless of which position one may take, the fact is that Army JROTC program will be in place and operational in 1700 high schools nationwide by school year 1997-98 and will affect over 126,000 high school students.

Self-Esteem

A great deal of research, exploration and written literature by a number of researchers has been conducted in the area of self-esteem. This vast amount of data gathered by researchers both adds to and detracts from establishing a definite, agreed upon definition of self-esteem. Any of the numerous definitions would suffice as an initial starting point for discussing self-esteem. In the following section several viewpoints and theories concerning self-esteem will be examined.

Definition of Self-Esteem

One position on self-esteem is a theory postulated by Mussen (Mussen, 1969). Mussen suggests that the self is comprised of two major components of a personality. In the core one finds self-concept, and on the outside, the rest of the self is comprised of elements radiating outward, one of these elements being the feeling of self-esteem. Based on this theory, Mussen defines self-esteem as "a personal judgment of worthiness expressed in attitudes an individual holds toward himself. Subjective experience which the individual conveys to others by verbal reports and other overt expressive behavior."

Hurlock supports this view of the self and two major components of a personality and submits his own definition of self-esteem (Hurlock, 1978). Hurlock views self-esteem
as the "composites of beliefs people have about themselves-- physical, psychological, social and emotional characteristics; their aspirations and achievements".

In agreement with Mussen and Hurlock, Symonds also discusses the self in terms of two major components: the conceived self and perceived self (Symonds, 1951). Symonds draws the distinction between the two components with the conceived self being concerned with self awareness and the perceived self is concerned with self feelings. With this framework in mind Symonds defines self-esteem as a function of being loved and/or gaining respect of others.

In a contrasting view of self and self-esteem interaction theorists postulate the theory of the self mastering experiences from the social reality surrounding the individual. Erikson labels this mastering of experiences as "ego synthesis" (Erikson, 1963). Erikson continues and defines self-esteem as a conviction of the individual that he is learning effective steps towards a tangible future.

Cooley in accordance with other interaction theorists postulates his theory of the "looking glass self" or "internalized" other (Cooley, 1972). Here within Cooley's theory the definition of the self, and therefore the definition of self-esteem, is dependent on observing reactions and opinions of others toward the individual. The consequences of this process result in specifying which of the behavioral effects this concept of self will have for future interactions with others. Cooley identified three principal elements to this process:

- Imagination of our appearance to another person,
- Imagination of his judgment of that appearance,
- Some sort of self feeling.

Mead postulated his theory of a "generalized other" (Mead, 1968). In this theory, Mead stressed that the development of the self is a process by which a person becomes an object to himself. Here self is considered a social phenomenon and therefore could be
judged as a product of the interactions in which a person experienced himself as reflected in the behavior of others. Mead placed definite emphasis on this product being a conscious process by the individual. Mead continued and identified three contributors to this process of development of self:

- Labeling dominant behavior,
- Reflected appraisals,
- Social comparison.

Mead implied that based on feelings of self-esteem individuals may be predisposed to feel certain ways about others and to respond favorably or unfavorably to their actions toward themselves.

A third view self-esteem presents a theory centering on self-evaluation. Diggory postulates his own theory stressing this viewpoint of self-evaluation (Diggory, 1966). Diggory sees self-esteem as being a product of the process of self-evaluation and in terms of the individual's level of aspiration and estimated probability of success. He also stated that self-esteem is not observable but is inferred from observations.

Coopersmith saw self-esteem as part of the self-concept (Coopersmith, 1967). Coopersmith defined self-esteem as the evaluative attitudes an individual makes and maintains with regard to himself. He identified two expressions which were designated as components of these attitudes:

- Subjective expression -- which is the self description given by an individual,
- Behavioral expression -- which is the behavioral manifestations available to an outside observer about the individual.

Coopersmith, therefore, believes that self-esteem expresses an attitude of approval or disapproval and indicates the extent to which an individual believes himself capable, significant, successful, and worthy.
Frey also defines self-esteem as an evaluative term (Frey, 1989). Frey believes that self-esteem refers to negative, positive, neutral and/or ambiguous judgments that one places on the self-concept. Self-esteem, therefore, is an evaluation of the emotional, intellectual, and behavioral aspects of self-concept. Frey continues on and states that self-esteem is not self-love, but the evaluation one places on self-concept. Frey considers self-esteem as possessing two interrelated components:

- The feeling that one is competent to live,
- The feeling that one is worthy of living.

Frey concludes that being competent includes the confidence one has in his/her mind, feelings, and behavior as these relate to the reality of one's existence, and that feeling worthy means affirming oneself and feeling self respect.

Young also views self-esteem as evaluation of self (Young, 1993). Youngs defines self-esteem as self-regard. Self-esteem then is the value each of us assigns to our personhood. Self-esteem is a composite picture of self-value, it is a self-picture, the reputation you hold with yourself.

Rosenberg presents still another theory on self-concept (Rosenberg, 1979). However, this theory possesses a sociological emphasis which concentrates on the development of a positive self image in adolescence. Rosenberg sees self-esteem as a unidimensional concept. In this theory Rosenberg depicts self-esteem and self-consistency as motives used by the individual to respond to the experience of life in such a manner as to be protective of his self-concept. The self-concept is not considered to be the real self but rather the picture of the self. Rosenberg designated three regions to be part of an individual's self-concept:

- Extant self -- how the individual sees himself,
- Desired self -- how the individual sees himself as he would like to be,
- Presenting self -- how the individual shows himself to others.
The multitude of theories and viewpoints on self-concept and self-esteem presented by the author are used to illustrate the vastly different, non-congruent ideas which permute around the subject. Regardless of which of the theories one expounds and supports there is almost universal agreement on the importance and impact of self-esteem has on an individual. The following section will examine the effects and importance of self-esteem.

**Effect and Importance of Self-Esteem**

The importance and effect of self-esteem on self was identified at the turn of the century and was thoroughly discussed by William James (James, 1890). James believed that self-esteem was a self-evaluation which could be effected by raising or lowering an individual's personal success or failure. James stated:

> With no attempt there can be failure; with no failure no humiliation. So our self feeling in this world depends entirely on what we back ourselves to do. It is determined by the ratio of our actualities to our supposed potentialities; a fraction of which our pretensions are the denominator and the numerator our successes: Thus, self-esteem = success/pretensions.

Coopersmith saw the importance of self-esteem and its effects in terms of a significant association with one's personal satisfaction and one's affective functioning throughout life (Coopersmith, 1968). In this view, there is a need to indicate the specific behavior on which self-esteem has an impact and/or to determine in what way it is a contributing determinant of one's personality. Coopersmith saw self-esteem being displayed in terms of conscious and unconscious attitudes. These attitudes are then expressed by an individual in terms of voice, posture, gestures and the individual's performance. These same attitudes provide the motivational force for the individual when a decision is to be made. Individuals with high esteem present a confident attitude which
reflected prior successes. Whereas an individual with low esteem present a much more hesitant attitude reflecting past failures.

Rogers expounds a similar theory concerning the importance of self-esteem and its effect in terms of success, self and self-esteem (Rogers, 1959). Central to Rogers' theory is the relationship between his terms of self and organism. Any perceptual difference between the self and organism would create first an anxiety in the individual and lower the individual's self-esteem. In contrast, the more agreement between the self and organism, the less anxiety in the individual and subsequently the higher level of self-esteem. Rogers noted that those individuals with low self-esteem felt least capable of reaching their goals and generally found it hardest to accept people around them. Whereas individuals with high self-esteem perceived a more positive appraisal from others and felt a greater attraction for others.

Maslow also put forth his own definition of self-esteem and its importance and effect on the individual (Maslow 1954). Maslow stated:

All people in our society (with a few pathological exceptions) have a need or desire for a stable, firmly based, usually high evaluation of themselves, for self respect, or self-esteem, and for the esteem of others. These needs may therefore be classified into two subsidiary sets. These are, first, the desire for strength, for achievement, for adequacy, for mastery and competence, for confidence in the face of the world, and independence and freedom. Second, we have what we may call the desire for reputation or prestige (defining it as respect or esteem from other people), status, fame and glory, dominance, recognition, attention, importance, dignity or appreciation. These self-esteem needs have been stressed by Alfred Adler and his followers, and have been relatively neglected by Freud. More and more today, however, there is appearing widespread appreciation of their central importance, among psychoanalysts as well as among clinical psychologists.
Satisfaction of the self-esteem need leads to feelings of self-confidence, worth, strength, capability and adequacy of being useful and necessary in the world. But thwarting of these needs produces feelings of inferiority, of weakness, and of helplessness.

Thomas and Burdick differed on the effect and importance of self-esteem. Their theory postulates that self-esteem is related to one's ability to exert influence and one's tendency to accept influence (Thomas and Burdick, 1954). Thomas and Burdick perceived low esteem individuals as being more easily influenced by others, whereas high esteem individuals were seen as more powerful in social relations and possessing a greater ability to exert influence on others.

Still another viewpoint on the effect and importance of self-esteem and the impact of success is submitted by Robert Josephs (Josephs, 1992). The variation in this viewpoint is that Josephs believes self-esteem is derived not only by fulfilling individual goals but that these individual goals are ascribed to the individual's gender. Josephs states that for males success equates to being independent, autonomous, separate, and better than others. For females success equates to being sensitive to, attuned to, connected to, and generally interdependent with others. Based on this Josephs postulates that males with a high self-esteem level should differ from men with a low self-esteem level to the extent to which they separate or individuate themselves from others. Females with a high self-esteem level should differ from females with a low self-esteem level to the degree to which they are connected to others and others are included in their self definition.

A different view on the effects and importance of self-esteem is found in a study by Lian-Hwang Chiu (Chiu, 1990). Chiu states that self-esteem plays an important role in vocational development, which he sees as a continuous progression, an orderly fashion through adolescence and into adulthood. Self-esteem is, therefore, an aspect of self-concept, and self-concept influences the individual's vocational development. Chiu
postulates that an individual's high or low self-esteem may affect the progress of adolescents' crystallization process. Adolescents' career decisiveness or indecisiveness may, therefore, reflect their feeling of self-worth. Chiu's study established that adolescents with some career goals had significantly high self-esteem levels than those adolescents without any goals.

Beane reinforced the opinion of the importance of self-esteem on education. Beane stated "If education is indeed a preparation for life then it would be a serious crime of omission to neglect the self as a subject to be taught. Gearing the curriculum to encompass the child's interests and using innate strengths to build a positive repertoire of successes can do nothing less than transform a potential truant into an honor student" (Beane, 1978).

An extremely apropos analogy for reinforcing this theory of the effect and importance of self-esteem on learning is submitted by Jack Canfield (Canfield, 1974). Canfield named this the "poker chip theory of learning" and explained it in this manner:

We all see learning as the result of a risk-taking situation somewhat akin to a poker game (or any other gambling situation, for that manner). In any potential learning situation, the student is asked to take a risk: to write a paper to be evaluated, to make a recitation which may be laughed at, to do board work that may be wrong, to create an object of art which might be judged. In each situation he is risking error, judgment, disapproval, censure, rejection, and in extreme cases, even punishment. At a deeper level the student is risking his or her self-esteem.

Imagine that each student's self-esteem is a stack of poker chips. Some students start the learning game with a lot of chips while others with very few. The individuals with the higher number of chips have a great advantage. To continue the poker analogy, the student with one hundred chips can sustain twenty losses of five chips each. The student with only fifteen chips can only sustain three
losses of five chips each. The latter student will be much more cautious and reticent about stepping into the arena. This kind of student manifests a variety of behaviors indicating his reluctance to risk learning. They range from "This is stupid, I don't want to do it" to withdrawn silence on one extreme to mischievous acting out on the other.

The student who has had a good deal of success in the past will be likely to risk success again; if he should fail, his self-esteem can "afford" it. A student with a history predominated by failures will be reluctant to risk failure again. His depleted self-concept cannot afford it. Similar to someone living on a limited income, he will shop cautiously and look for bargains. One obvious recommendation in this situation is to make each learning step small enough so that the student is asked to only risk one chip at a time, instead of five. But even more obvious is the need to build the student's supply of poker chips so that he can begin to have a surplus of chips to risk.

One of the most detailed studies ever done on the effect and importance of self-esteem was by Gail Dusa (as cited in Canfield, 1990). Dusa at Silver Creek High School in San Jose, California divided the freshman class into three groups. The first group, consisting of 93 students, was the experimental group, the self-esteem group. This self-esteem group was taught by teachers who adhered to three operating principles. The teachers would:

- Treat all student with unconditional positive regard,
- Encourage all students to be all they could be,
- Encouraged all student to set and achieve goals.

In addition, the self-esteem group participated in a 40 minute activity to build self-esteem every second Friday throughout their freshman year. The control group, also consisting of 93 students, received no treatment but was monitored along with the self-
esteem group for four years. The third group was not involved in the study. At the end
four years Dusa's findings where the following:

Table 2.--Self-Esteem Effect on Achievement

<table>
<thead>
<tr>
<th></th>
<th>Self-esteem Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days of Absenteeism Per Semester</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Percentage of Students Who Completed 90% or More of Their Homework</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>Percentage of Students Who Participated in 20 or More Extracurricular Activities</td>
<td>25%</td>
<td>2%</td>
</tr>
<tr>
<td>Percentage of Class Offices Held By Groups Between Freshman and Senior Years</td>
<td>75%</td>
<td>0%</td>
</tr>
<tr>
<td>Percentage of Students Who Graduated From High School</td>
<td>83%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Though there is an immense amount of support for the effect and importance of
self-esteem on an individual and what measurable individual performance comes out from
both positive and negative self-esteem, the opinions on the importance and effect of self-
esteeom are not unanimous. Randy Moore argues that a major reason for individual's
failures both in school and the public sector are due to the primary mission of many
schools having shifted from education to building self-esteem (Moore, 1993). Moore
argues that self-esteem is earned and that schools, despite their good intentions, cannot
dispense it as a prepackaged handout. Moore makes his argument by stating an
international study which found 13-year-old Koreans ranked first in math while 13-year-old Americans ranked last. However, when the students were queried only 23% of the Koreans claimed that they were good in math whereas 68% of the Americans made the same claim. Moore concludes with the opinion that the products of our current emphasis on self-esteem have: inflated grades, lowered standards, produced meaningless diplomas, and nurtured an ignorance of important work.

Whether one agrees with Moore's position on the over emphasis of self-esteem in the school system or with the positive results of Dusa's four-year-long study or the simple fact that self-esteem is considered important and will affect an individual throughout his/her lifetime as discussed by numerous respected authors, the fact remains that an individual's self-esteem is important to the individual, parent, and in today's workplace, to the employer.

**Improvement of Self-Esteem**

A common reason so many businesses do not operate efficiently, effectively or outright collapse is due to a system-wide failure to build and maintain employee self-esteem. This failure can be addressed by the business but must not be accomplished in a degrading or demeaning manner for the individual. To do that will have an adverse effect on the individual and business. Kaeter stated "You can offer all the basic math, reading and writing courses you want, but if employees won't admit they can't read, write or figure, trainers will be staring at empty chairs. We're asking employees who were hired in that world to understand quality control, to write documents, to make presentations, to produce charts and interpret statistics and to train other people how to do these things. You have to have programs that don't violate a person's sense of being an adult. Just the title of a course lends esteem to the course. It's not embracing to tell your kids or coworkers that you are taking such a businesslike topic" (Kaeter, 1993).
In addition to the manner in which the self-esteem is addressed, the tasks themselves must be challenging to the individual. Attributing the success an individual experiences on easy tasks to task ease or the success experienced on extremely difficult tasks to luck does not enhance self-esteem (Deci and Porac, 1978). It is only success at moderately difficult or truly challenging tasks in which an individual can explain in terms of personal effort, well chosen strategies and ability, which give rise to feelings of pride, competence, determination, satisfaction, persistence, and personal control. Therefore, moderate risk taking on successful tasks increases self-esteem, performance, persistence, perceive competence, self knowledge, pride and satisfaction.

Methods for self-esteem improvement are not limited to businesses. The importance of assuming responsibility for the role individuals play in their own success is a critical ingredient. Currently, the perception of some children's academic limits and fear for their self-esteem lead many teachers to excuse these children from hard work and higher expectation, thereby assuring their failure to acquire the necessary academic skills. How teachers deal with this issue can go far toward setting children's expectations of themselves and the standard of learning they will meet (Office of Educational Research and Improvement, 1990).

Max Taylor put forward seven actions an individual may take in enhancing self-esteem of another (Taylor, 1990):

- Improve self-evaluation skills as a basis for evaluating the self-concept.
- Encourage individuals to develop a sense of their own personal worth.
- Help individuals reflect on their self-esteem and the values on which it is based.
- Encourage individuals to think of themselves in positive terms.
- Help discover reason why the individuals unhappy with any dimension of the self-concept.
• Help find ways to improve dimensions of self-concept with which the individuals are unhappy.

• Help individuals examine sources of and influences on self-esteem.

Jack Canfield postulated 11 actions an individual may take on how to improve self-esteem from the individual's perspective (Canfield, 1990):

• Assume an attitude of 100 percent responsibility.

• Focus on the positive.

• Learn to monitor your self talk.

• Use support groups in the classroom.

• Identify your strengths and resources.

• Clarify your vision.

• Set goals and objectives.

• Use visualization.

• Take action.

• Respond to feedback and persevere.

Blitzer in similar fashion provided five ways to build the self-esteem of other individuals (Blitzer, 1993):

• Make people feel uniquely valuable.

• Make people feel competent.

• Make people feel secure.

• Make people feel empowered.

• Make people feel connected to the group.

Regardless of which approach one uses to improve self-esteem, the manner in which self-esteem improvement is approached must not only be challenging but must not demean or degrade the individual. To demean or degrade the individual would not accomplish the desired objectives of improving self-esteem.
Self-esteem is a state of mind, it is your internal belief system and how you experience life externally. It is the way you feel and think about yourself and others and is measured by the way you act. Self-esteem is self-confidence, self-worth and self-respect and involves not only respecting others, but also feeling a sense of harmony and peace within yourself. Self-esteem, therefore, is the bridge between who you are and what you do. A person with high self-esteem has learned what is important in life and will not get distracted by feelings of guilt, fear, or self doubt. With high self-esteem a person can make choices without compromising values or ethics and take responsibility for his or her actions (Palladino, 1989).

The study of self-esteem has provided a plethora of information, studies, opinions, theories, and guidelines. The preceding section by no means covers all published material on self-esteem, or attempts to, but rather the section provides an insight to the definition of self-esteem, the effect and importance of self-esteem and methods of improving self-esteem from some of the most respected and authoritative individuals in the field.

Learning Skills

Goal setting, time management and planning, and organizational skills are so interwoven and overlap in most published literature that to discuss one element acknowledges the existence and necessity of the others. Learning skills, in terms of goal setting, time management and planning, and organization skills, play an important role in an individual's self-esteem.

Goal Setting

Mihaly Csikszentmihalyi discusses his extensive cross cultural study in which he found that the key condition for self fulfillment is engaging, goal-oriented activity that is directly or at least symbolically linked to some social or contributive purpose (Csikszentmihalyi, 1990). A correlation study conducted by Carroll and Tosi found that individuals with high self-assurance increased their effort in the face of increasing difficult
goals, whereas those with low self-assurance worked less hard as the goals became harder (Carroll and Tosi, 1970).

The use of feedback did not change this correlation of self-esteem and performance. Dossett's study found that work processing operators with high self-esteem who were given performance feedback attained their goals significantly more often than individuals with low self-esteem (Dossett, 1979). Dossett's findings are consistent with Shraugrer and Rosenberg (Shraugrer and Rosenberg, 1970). Shraugrer and Rosenberg's study found that shifts in performance following feedback depended on the self-esteem level of the individual. Specifically, high self-esteem people improved their performance more than low self-esteem people following positive feedback. The performance of low self-esteem individuals decreased more than high self-esteem individuals following negative feedback. Thus high self-esteem individuals are influenced more by positives, whereas low self-esteem people are influenced more by negatives.

In contrast to the wide diversity and disagreement on a definitive definition of self-esteem, goal definition is fairly straightforward and simple. Ryan states that to the layman it seems a simple fact that human behavior is affected by an individual's conscious purposes, plans, intentions, tasks and the like (Ryan, 1970). Locke apologetically assumes that goals are simply ideas of future and/or desired end states (Locke, 1990).

Goals have two main attributes, much like other mental processes (Rand, 1969): content and intensity. Goal content refers to the object or result being sought and will vary with each goal. Usually the content will refer to some aspect of the external world, although it is also possible for people to have psychological goals such as happiness, higher self-esteem or less anxiety and self doubt. The content of different goals may differ qualitatively. An individual may have a career goal, a job goal, a financial goal, or a goal in sports or hobbies or in his social life. Goal content may also vary quantitatively. The individual may have few or many goals, short term or long term, or easy or difficult.
Goals may also vary in degree of specificity or clarity, the clearest or most specific goals usually being quantitative, such as increased productivity, the least clear goals being more verbal, for example, do the best you can.

In contrast to goal content, goal intensity refers to such factors as the scope and integration of the goal setting process, the effort required to form the goals, the place of the goal in the individual's goal hierarchy, the degree to which the individual is committed to the goal and the importance of the goal (Rand, 1969).

Goal content and intensity are not always easy to separate. A more intense psychological process could be involved in setting clear, specific goals than vague goals in a situation where a great deal of information had to be analyzed and integrated before the goals could be clearly formulated (Rand, 1969). In such a case, clearer goals would be more intense than vague goals. In other situations, there might be no difference, as in a laboratory experiment in which different people were assigned specific and general goals.

Goal setting theory, therefore, assumes that human action is directed by conscious goals and intentions. However, goal setting theory does not assume that all action is under full conscious control. There are some degrees of conscious self regulation some actions which are not consciously intended are sneezing, tics, and mannerisms (Locke, 1990). A goal or purpose does not have to be in conscious awareness every second during goal directed action in order for it to regulate action (Klinger, 1987). For example, Klinger noted, a student pursuing a Ph.D. degree does not think of that goal every minute. Once the student begins the doctoral program, he or she will normally focus on subgoals such as mastering the material in a given course, finding a thesis topic, or developing plans for reaching those subgoals. Getting the degree, however, is the integrating goal behind those subgoals and plans. While not always in conscious awareness, the end goal is easily called into awareness.
Locke in numerous goal setting studies asserts that there exists a linear relationship between the degree of goal difficulty and an individual's performance. This relationship is termed the goal difficulty function. The explanation of the goal difficulty effect is that hard goals lead to greater effort and persistence than easy goals, that is assuming the goals are accepted. Related to this is the fact that hard goals make self satisfaction contingent on a higher level of performance than easy goals. Give an individual a higher, harder, or more difficult the goal, the better the performance of that individual (Locke, 1990). In all cases, the goal difficulty functions are linear except when subjects reach the limits of their ability at high goal difficulty level. In such cases, the function levels off (Locke, 1982). However, with high, harder or more difficult goals the less likely an individual will attain those goals and thus less likely to produce satisfaction. For this simple reason, failure is more likely for people with hard goals than for people with easy goals. Failure is not only disvalued in itself, but failure can also produce stress and lack of rewards for the individual. Figure 1 graphically displays this function, where maximizing one outcome-performance, minimizes the other outcome-satisfaction.
Obviously, one solution to this is to make goals challenging but ultimately reachable, moderately difficult goals. This moderately difficult goal would not maximize either outcome but would maximize the combination of the two.

Several authors have put forth basic models for goal setting. However, for goals to increase productivity, build morale and create a sense of achievement, goals need to meet three basic critical criteria, that is, goals need to be specific, realistic, and mutually determined. When goals violate these basic guidelines goals can be counterproductive, demoralizing and even engendering of hostility. Simply stated, if goals are set arbitrarily and unilaterally then goal setting can have severe negative consequences (Dangot-Simpkin, 1993).

Santavicca stated that goal setting is critical for effective planning, for perceptions about what is important may differ, and unless time is spent in discussing and mutually agreeing on a department's goals, time may be wasted on the wrong activities. Based on...
this rationale Santavicca put for the following six basic questions one should ask about goal setting (Santavicca, 1984):

- Are the goals specific? When there is no confusion about the desired result, the likelihood of goals being achieved increases.
- Are the goals behavior or performance based? When a goal is clearly related to the actions needed to achieve it, the goal is also more attainable.
- Are the goals realistic? Goals that are considered unreachable usually result in plans that lack meaning and employees burned out from frustration.
- Do the goals have target dates by which time the goals must be achieved? Open-ended goals are likely to be neglected because there is no sense of urgency associated with them.
- Are the goals clearly observable and/or measurable? If the goals are not, it will be impossible to know if or how well the goals are being met.
- Are the goals continually reviewed and updated? As conditions change, results may need to change. Continual reviews allows one to keep goals and actions in line with changing conditions.

From a somewhat different prospective on goal setting, Huber, Latham and Locke showed how goal setting can affect the ability of supervisors and subordinates to affect the impressions both make on each other (Huber, Latham and Locke, 1989). Supervisors can create a positive impression with subordinates when they engage in the following:

- Assign clear goals so that they show that they know what they are doing.
- Provide a rationale for the goal.
- When needed, provide specific task information about how to attain the goal.
- Serve as a role model setting difficult goals for themselves and attaining these goals.
- Be physically present during goal setting.
• Allow subordinates input as appropriate: for new employees, assign goals; for more experienced and competent subordinates, participatively set goals, and for high experienced and competent workers, delegate.
• Express confidence in the subordinate's ability to attain the goal; be supportive.
• Once the goal is set, give subordinates the opportunity to develop their own strategies to attain the goal.
• Provide specific knowledge of results.
• Present positive performance information before presenting negative information.
• Give fair rewards that are perceived as equitable.

Similarly, subordinates can create a positive impression with superiors when they engage in the following strategies (Huber, Latham and Locke, 1989):
• Take the initiative to set goals on their own or ask for supervisory assistance in goal choice and accept that advice.
• Choose challenging goals.
• Show commitment to goals through persistence and problem resolution.
• Project high but not inaccurate self efficacy.
• Develop effective plans using all information available.
• Succeed in attaining or approaching goals.

In a somewhat similar vein to Santavicca, Hughes saw the individual purpose and the company purpose as being analogous (Hughes, 1986). The company is made up of individuals and is essentially the expression of individual purposes which find realization through the company. Both the individual and the company must answer in some detail the question of what the ultimate aim or end of all their activities may be. In short, why are certain goals being sought. Hughes therefore postulates his eight-step, goal setting process:
• Establishing specific goals to support stated purpose.
• Determining the importance of these goals.
• Making plans for action.
• Arriving at performance standards and measurement criteria.
• Stating anticipated problems.
• Weighing the resources required to carry out the planned action.
• Providing for the interaction of organizational and individual goals.
• Following up with actual performance measurement and evaluation.

Locke and Latham put forth the most comprehensive, cognitive based goal setting model (Locke and Latham, 1990). The focus of this model is on what happens after a person becomes committed to a goal, either through being assigned a goal or task by another person, setting it participatively or setting it on his or her own. (See Figure 2.)

As stated at the outset of this section goal setting, has a profound effect on the individual. However, Locke put it most succinctly when discussing the importance of goal setting. "Goal setting does not apply just to work; it applies to life" (Locke, 1990).
Figure 2. Locke and Latham Goal Setting Model

Goals and Tasks → Activation of Stored Plans → Appraisal of Adequacy/Relevance of Stored Plans → Past Experience, Mental Set, Self Efficacy, Time Pressure Ability

- Stored Plans Not Accepted → Develop New Tasks Specific Plans
  - Anticipate Positive Feedback If Continued → Positive Feedback
  - Anticipate Negative Feedback If Continued

- Plan Selected → Implement Plan → Perform Task

Time Management

The key to successful goal setting is planning and time management. Time management is allocating time to your activities so that maximum benefits are produced (Brady, 1989). Time management has become such a vital issue in businesses today that Training Magazine's Industry Report estimates that almost two-thirds of U.S. organizations with more than 100 employees provide time management training to their employees (Quirk, 1989). Successful time management will reduce stress within your work environment and help you establish and accomplish professional objectives (Romeo, 1993).

There are two approaches to time management: reducing the negative and enhancing the positive. Virtually every proponent of time management starts improvement of time management with a self examination of how time is presently being utilized. Douglass asks the following questions prior to postulating his formula on time management (Douglass, 1990):

- Do you believe you are planning your time as well as you could?
- Do you set at least one significant objective for yourself everyday?
- Do you write out a daily activity list?
- Do you put priority codes by each item on your list?
- Do you estimate how much time each activity will require?
- Do you schedule a specific time to do your most important activities?
- Is your plan flexible enough to allow for the unexpected things you can't control?
- Do you set deadlines for yourself?
- Do you usually accomplish what you most want to get done by the end of the day?
• Do you often find yourself wishing you had more time to do the things on your list?

Based on the number of positive responses to the above questions, Douglass proposes the four step "OATS" formula for improving time management (Douglass, 1990). The "O" in the formula represents "objectives". What do you want to accomplish? Start the day by focusing on the results you want to achieve by the end of the day. Similarly start your week with what you want to achieve by the end of the week. The "A" represents the necessary "activities" for those objectives. What activities need to be done to accomplish the desired results by the specified time? The key in this step is to identify the correct activities for the objectives. Obviously, executing the wrong activities will not aid in attaining desired results. The "T" represents the "time" estimate for the objective. Some key questions to ask in this step are: How long will it take to perform all the necessary activities? Do I have that much time? How much flexibility do I have for the unexpected? Breaking down the necessary activities into smaller functions will assist in making more accurate time estimates. The "S" in the formula represents "schedules". The key questions in this step are: When will you execute each of your necessary activities? In what order or sequence do the activities need to be in to achieve your objectives? Is there a specific time in which specific activities must be accomplished?

In a similar vein, but in much more detail Romeo postulates his own 12 question self-examination on time management (Romeo, 1993). The major distinction between Romeo's approach and the Douglass OATS formula is that Romeo postulates that by answering the 12 questions an individual will be able to create their own method of time management. The questions that Romeo ask are the following:

• Do I have a vision?

• Do I have clearly defined long term goals?

• Do I have clearly defined short term goals?
• Have I prioritized by goals?
• Have I written down all the steps necessary to reach my vision and achieve my goals?
• Do I know what I want to achieve this week?
• Have I determined by prime time?
• Have I devise a plan for handling interruptions?
• Do I delegate tasks whenever possible?
• Do I set realistic deadlines for myself and my subordinates?
• Do I prevent recurring crises?
• Do I plan for success?

Romeo does not offer a set solution for time management problems but rather emphasizes that successful time managers set aside time for their personal lives. It is only through a balance between the workplace and personal lives that individuals can live long professional lives.

Thomas Quirk in contrast to Romeo and more in synch with Douglass, postulates his own nine steps to successful time management with an emphasis on everyday operations (Quirk, 1989). These nine steps are:

• Accomplish one major objective each day.
• On Friday afternoon, plan your schedule for the following week.
• Each weekday afternoon, write down your schedule for the next day.
• Substantially reduce one time waster each week.
• Spend your time as if you had to buy it.
• Conquer procrastinations now.
• Maintain a regular physical exercise program.
• Schedule some personal time every day.
• Good intentions are not enough. Do it.
Regardless of which method an individual uses to exercise time management, planning is an important element of time management. In fact planning and time management often occur simultaneously and overlap in the actual execution of the task. However, to help clarify and delineate between time management and planning, planning is defined as thinking about what you want and how you are going to accomplish, determining in advance what is to be done, and preparing for the future by making decisions now (Steiner, 1979). In a similar vein, Robert Heilbroner sees planning as an attempt to anticipate the future and guard against the threat of change, which humans are urgently aware of because of their time sense. Planning is the effort to visualize the future as history by determining how we would want the future to appear if we could jump ahead in time and look backward (Heilbroner, 1960).

A good planning system offers two major advantages in terms of time management. The first advantage is the identification of how much time is available to achieve the desired goal. This time limit allows the individual to focus on the important tasks needed for goal achievement and ignore less important time wasting tasks. The second advantage is the forewarning of impending problems and troubles with those tasks. This warning allows an individual to address the need or possibility of goal adjustment, to bring in additional resources, to eliminate some tasks, to implement additional plans, or, on the extreme end, to terminate the drive to attain a specific goal. Planning, therefore, is not about the next task itself but rather how the parts of the task work together to achieve the goal (Taylor, 1990).

**Organizational Skills**

Planning and organizing, in terms of implementation in organizational functions and executing tasks, have become so interwoven with each other that one almost expects to see the term "planning and organizing" as a single entry in most literature. However, there is a distinction between the two. Webster's New Collegiate Dictionary defines the
word "organize" as "to arrange or constitute into a coherent unity in which each part has a special function or relation; to unify into a coordinated functioning whole; to integrate" (Webster's, 1979). Therefore, by definition, to plan and to organize are separate actions and/or tasks. The skills needed to organized are thus organizational skills and not necessarily planning skills. The development of organizational skills is somewhat inherent and innate. Max Taylor states that organizing is a process skill which is internal to individuals (Taylor, 1990). Organization refers then to what happens within one's own brain.

Marion Brady differs from Taylor somewhat in that he believes that organizational skills are the development of systemic relationships among patterns of action, cultural premises, environment, and demographics (Brady, 1989). Brady's model of sociocultural systems postulates that these four components are the most comprehensive systems know and are therefore capable of organizing and logically relating to each other.

Conclusion.

Chapter 2 has presented a perspective on the history of the Army JROTC program, from its inception in 1916 to its projected future in 1998 and the different levels of support of the program. This review has also presented the much examined and studied human condition of self-esteem in terms of the definition, the importance, and how to improve self-esteem. Not all possible areas of this topic were addressed. The vast amount of published material on the subject exceeds the parameters of this study. Finally, learning skills in terms of goal setting, time management and planning and organizational skills were examined so as to layout the reference points and framework for this study.
CHAPTER 3

METHODOLOGY

Chapter 3 consists of the focus of the study, descriptive data on all the participants in the study, participant release procedures, draft measurement instruments, the statistical analysis conducted on the draft measurement instrument, the experiment design for this study, and the inferential statistics to be used to examining the results of this study. Finally Chapter 3 contains the hypothesis which this study will analyze.

Focus of The Study

Given the broad based, multi-variate implications and effects of the Army JROTC program on students, this experiment will limit itself to study only two variables: development of self-esteem and learning skills. The focus of this experiment is to examine this development in two recently initiated high school programs in which students are only at the basic level, LET 1, in comparison to two other well established programs in which students are at the advance level, LET 3s and LET 4s. For statistical analysis the two Michigan high schools will collapse into one group and the two Chicago high schools into a second group. This procedure will allow for inferences to be generalized between the basic and advance LET levels.

Participants

Participants for this experiment were a total of 117 students high school students, 67 males and 50 females, attending four different public high schools in the two states of Illinois and Michigan. Two of the high schools, Gage Park High School and Carl Schurz High School, are part of the Chicago Public School system, Chicago, Illinois. The third
high school, Beecher High School, is from the Beecher Public School system, Beecher, Michigan, which is an adjacent suburb of Flint. The final high school, Hill Center High School, is from the Lansing Public School system, Lansing, Michigan.

Gage Park and Carl Schurz, the two high schools from the Chicago Public School system, have a well established, operating JROTC program and are well received and integrated into the high school curriculum. The two high schools from Michigan have just initiated their JROTC program for school year 1994-1995. The students at these latter two high schools had never had exposure to the Army JROTC program.

Participants from the Chicago Public School system were restricted only to the advance level of the Army JROTC program, LET3s and LET4s. Accordingly, all participants from the Chicago Public School system were either high school juniors or seniors. This was not the case for the Michigan high schools. Though participants from the Michigan high schools were limited to only LET1s the academic status of the participants ran the entire gambit from freshmen to seniors. This is due to again to the JROTC program just being introduced into the high school system.

**Participant Release Procedures**

Releases were obtained from all student participants (See Appendix 1). In the Chicago high schools 60, or 98.4%, of all eligible students participated in the experiment. In the Beecher public high school 30, or 96.6%, of the students participated and in the Lansing public high schools 27, or 93.1% of the students participated in the experiment. This provided a population of 117 students for the experiment, 67 male and 50 female.

**Draft Measurement Instruments**

In the planning stages of this experiment a draft measurement tool was developed to measure self-esteem and learning skills. In this draft measurement tool the self-esteem variable was allocated 17 questions. The learning skills variable was allocated 41
questions. These 41 questions were divided into the three different categories used to identify learning skills. The break down of the 41 questions are as follows:

- The planning and time management construct was allocated 14 questions.
- The organizational skills construct was allocated 12 questions.
- The goal setting construct was allocated 15 questions.

This procedure produced a draft measurement tool with a total of 58 survey questions. The order of the questions within the measurement tool were assigned on a random assignment basis. Each question was assigned a number and randomly selected. Each questions was then assigned an order position within the draft measurement tool based on the random selection. The survey question responses were based on a five point Likert scale with the participants indicating how accurately the questions described themselves. A rating of '1' indicated a strong agreement with the question; a rating of '5' indicated a strong disagreement. In order to limit test apathy and increase validity and student's attention to the survey, the draft measurement has the participant's response scale reversed one-third of the way through the survey. The response scale is again reversed two-thirds of the way through the survey.

In order to establish reliability and validity of the draft measurement tool, the survey was administered to a total of 371 high school students attending three distinctly different area high schools. All of the participants in the administration of the draft survey were students actively participating in a well established JROTC program in their high schools. The first high school is a private, all male, military, college preparatory school located in rural Wisconsin. The second high school is a public high school located within the Waukegan Public School system in Waukegan, Illinois. The final high school is located within the Gary Public School system in Gary, Indiana. Participants from the second and last high schools included both male and female cadets.
The first high school is primarily a boarding school with a strong academic emphasis on college preparation. This high school has a very structured environment. Due to the structure of this organization the typical problems, such as gang activity, drug use, teen pregnancy, or disciplinary problems associated with other high schools are virtually non-existent. Because this is a private high school with a fairly expensive tuition and fee rate the students here tend to possess a moderate to high social economic status.

The high school in Waukegan is the only public high school in a city of roughly 69,500 citizens. The graduation rate is 86.3% with 26.5% of the graduates going on into college (Education National Statistics, 1993). In the school year 1993-1994 students in this high school received over $150,000 in college scholarship money. This high school does possess some of the aforementioned high school problems, gang activity, drug use, teen pregnancy or disciplinary problems, but the administration, staff, and faculty are very involved and the problems are kept at a very manageable level. The social economic status of the majority of students attending this high school are in the low to moderate level.

The final high school from Gary did possess a high degree of the problems already mentioned. Teen pregnancy was prevalent, gangs were very active in and around the high school, and disciplinary problems were common. The social economic status of students attending this high school is at the low level.

The rationale and intent for using these three different high schools was for the norming effect the participants would have on the draft measurement tool.

Statistical Analysis of the Data Obtained from the Draft Measurement Tool

After assembling all of the student responses on the draft measurement tool the data was entered into a spread sheet format using the Microsoft Excel personal computer software program. Once in this format the spread sheet was accessed and analyzed by the SPSS/PC+ Version 5.0 computer statistical package program. A correlation table from
the response data was constructed for analysis of the draft measurement tool. This correlation table was used to conduct an item analysis and reliability analysis of the draft measurement tool.

In this operation a variable loading was conducted which loaded assigned questions into the two variables, self-esteem and learning skills, identified earlier. The results were analyzed, and it was determined a collapsing of the total number of questions of the draft measurement tool was warranted. This was due primarily to the low, weak alpha levels drawn from the draft survey. In the initial analysis, the learning skills variable reported an alpha score of .3397. Similarly, the self-esteem variable initially reported a weak alpha score of .2721. After reducing the number of questions of the learning skills variable from 41 questions to a total of 21 questions the internal reliability estimate was raised from the low alpha score of .3397 to a moderately strong alpha score of .7995.

Similar modifications to the self-esteem variable also produced positive results. However, the alpha score gain of the self-esteem variable, from .2721 to .6102, did not move the self-esteem variable alpha level beyond the low level into the desired moderate level. Based on this reliability analysis, it was decided to utilize Stanley Coopersmith's Self-Esteem Inventory Adult Form for the self-esteem portion of the survey (See Appendix 3). This decision was reached after a review of published self-esteem questionnaires appearing in Measures of Social Psychological Attitudes (Robinson and Shaver, 1976). A comparative matrix of various self-esteem instruments is illustrated in Table 3. Coopersmith's Self-Esteem Inventory Adult Form consists of 25 questions and possesses an strong internal reliability alpha score of .90.
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Number of Questions</th>
<th>Average range of Reliability Scores</th>
<th>Response Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennesse Self Concept</td>
<td>79</td>
<td>.92</td>
<td>5 Point Likert Scale</td>
</tr>
<tr>
<td>Piers-Harris Childern's Self Concept</td>
<td>80 to 95</td>
<td>.78 - .93</td>
<td>Yes / No Scale</td>
</tr>
<tr>
<td>Janis Field Feelings of Inadequacy Scale</td>
<td>20</td>
<td>.72 - .88</td>
<td>5 Point Likert Scale</td>
</tr>
<tr>
<td>Rosenberg Self Esteem</td>
<td>10</td>
<td>.85 - .92</td>
<td>4 Point Likert Scale</td>
</tr>
<tr>
<td>Coopersmith Self Esteem</td>
<td>25</td>
<td>.90</td>
<td>Like me / Unlike me</td>
</tr>
<tr>
<td>Miskimins Self Goal Other Discrepancy Scale</td>
<td>20 -24</td>
<td>.78</td>
<td>9 Point Likert Scale</td>
</tr>
<tr>
<td>Intellectual Achievement Responsibility Questionnaire</td>
<td>34</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td>Modified Intellectual Achievement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement Responsibility</td>
<td>24</td>
<td>.58</td>
<td></td>
</tr>
</tbody>
</table>
The final survey product for this experiment was, therefore, a survey consisting of 46 questions, 21 for the learning skills variable and 25 for the self-esteem variable, using on a dichotomous response scale, true or false (See Appendix 4). The experiment's survey produces an overall score that reflects the number of individual items responded to in a positive direction. In the self-esteem portion, the total respondent score could range from 25 to 50. The greater the respondent score the higher the self-esteem level.

Unlike the self-esteem scale, the learning skills scale was reversed with the respondent's highest possible score being a 21 and lowest possible score being a 42. In contrast to the self-esteem scale, the lower the respondent score the higher the learning skills level. The total amount of survey questions and response scales used was considered appropriate for the experiment population which consists of high school students in their early- to mid-teen years.

Experiment Design

Considering the various factors and treatment levels utilized in this experiment, it was decided to use a completely randomized partial hierarchical design for the experiment design (Kirk, 1982). The designation of this experiment design is a CRPH-2422(A) design. This designation signifies an experimental design in which treatments A, B, and C are crossed but B is nested within A. The experimental design model equation for experiment is:

\[ Y_{ijklm} = \mu + \alpha_j + \beta_k + \gamma_l + \delta_{m(l)} + (\alpha\beta)_{jk} + (\alpha\gamma)_{jl} + (\alpha\delta)_{jm(l)} + (\beta\gamma)_{kl} + (\beta\delta)_{km(l)} + (\alpha\beta\gamma)_{jkl} + (\alpha\beta\delta)_{jkm(l)} + \epsilon_{i(klm)} \]

The block diagram of the experimental design for this experiment is the following:
In the experiment design the variables identified and used in the experiment are represented by the following letters:

- 'a' represents the two different general LET levels, basic and advance,
- 'b' represents each of the four different high schools,
- 'c' represents the two genders of the students; male and female,
- 'd' represents the two variables being measure across the other variables; self-esteem and learning skills,
- 's' represents the individual cell score for that specific combination of variables.

**Hypothesis**

The six hypothesis for which this experimental design will examine are the following:

Hypothesis one is that there is no significant difference in self-esteem development between students at the basic Army JROTC level and students at the advance level.

Hypothesis two is that there is no significant difference in learning skills development between students at the basic Army JROTC level and students at the advance level.
Hypothesis three is that there is no significant difference in self-esteem development in students participating in the Army JROTC program over a six month period.

Hypothesis four is that there is no significant difference in learning skills development in students participating in the Army JROTC program over a six month period.

Hypothesis five is that there is no significant difference in self-esteem development in students based on the gender of the student.

Hypothesis six is that there is no significant difference in learning skills development in students based on the gender of the student.

Statistics

The inferential statistics to be used to analyze the data from the experiment are: an t-test for independent groups, a two way analysis of variance (ANOVA), and a simple repeated measures analysis of variance (ANOVA). The statistical package for the social sciences (SPSS) version 4.1 loaded within the mainframe computer at Loyola University Chicago will be used for this analysis.

The two way ANOVA will be use to analyze all main effects and all possible interactions. In the event of significant main or/and interaction effects, further analysis of variance statistical testing will be conducted to evaluate the significant findings. The alpha level selected for the determination of statistical significance for all analysis of variance F-ratios, main effects, and interactions will be 0.05. Statistical results relative to the hypotheses are initially presented using the standard analysis of variance summary table (See Appendix 4).

Summary

Chapter 3 contains a review of the sampling population, 117 students, 67 males and 50 females, from four different high schools. For the experiment two high schools are
from a well established Army JROTC program in the Chicago Public School system and
two high schools from Michigan who are in their infancy of operations of their Army
JROTC program.

The measurement tools utilized for this experiment were selected after careful
consideration of many forms and types available for measuring self-esteem. Stanley
Coopersmith's Self-Esteem Inventory Adult Form was the decided upon tool.
Additionally, an original measurement tool designed to measure learning skills in terms of
goal setting, time management, and planning and organizational skills was added to
produce the final measurement tool consisting of 46 questions. The response scale for the
survey is a dichotomous true false scale.

A discussion of various statistical tests and measurements to be used was
discussed. The inferential statistical analysis will included a t-test for independent groups,
a two way ANOVA, and a simple repeated measures ANOVA.
CHAPTER 4

RESULTS

Chapter 4 contains the findings for the experiment. This experiment utilized the pre-test post-test method with approximately six months between survey administrations. Self-esteem and learning skills were analyzed as the dependent variables. The two LET levels, basic and advance, and sex were analyzed as the independent variables. The null hypotheses were tested by a number of statistical procedures. Null hypotheses 1 and 2 were tested by use of a two-way ANOVA procedure. This procedure analyzed both the main effects and interactions of all the variables. T-test for independent samples were also conducted to allow pairwise comparison in testing null hypotheses 1 and 2. A simple repeated measures ANOVA procedure was conducted to examine data gathered to test null hypotheses 3 and 4. To test null hypotheses 5 and 6 a two-way ANOVA was utilized. An alpha level of .05 was selected as the critical value for all the statistical procedures.

Hypotheses 1

Hypotheses 1 hypothesizes no significant difference in self-esteem development between students in the basic LET level and students at the advance LET level. Table 5 displays cell means and standard deviations of self-esteem by the two different LET levels. Students in the advance LET level scored 1.286 higher on the self-esteem scale than the students in the basic LET level, 38.900 versus 37.614, respectively. Table 6 displays the results of the two-way ANOVA, Self-esteem by Sex and LET Level. Table 6 indicates a significant finding in main effects, self-esteem, with LET level at the .05 alpha level. The LET level variable produced an F value of 4.038 and Sig of F value .009 in the analysis of variance summary table. No other significant findings on the main effects or interactions
were found by this analysis. However, the sex variable, though not significant, did indicate a near significant finding. This is due to a reported F value of 3.819 and Sig of F of .053. This finding between self-esteem and LET level indicates there exists a significant difference in the students in the basic LET level and students in the advance LET level in terms of self-esteem.

Table 5.--Cell Means and Standard Deviations of Self-Esteem by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>37.614</td>
<td>2.704</td>
<td>57</td>
</tr>
<tr>
<td>Advance</td>
<td>38.900</td>
<td>2.868</td>
<td>60</td>
</tr>
</tbody>
</table>

Table 6.--Analysis of Variance Self-Esteem by Sex and LET Levels

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F Value</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>121.495</td>
<td>4</td>
<td>30.374</td>
<td>4.056</td>
<td>*.004</td>
</tr>
<tr>
<td>Sex</td>
<td>28.602</td>
<td>1</td>
<td>28.602</td>
<td>3.819</td>
<td>.053</td>
</tr>
<tr>
<td>LET Level</td>
<td>90.739</td>
<td>3</td>
<td>30.246</td>
<td>4.038</td>
<td>*.009</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>5.393</td>
<td>3</td>
<td>1.798</td>
<td>.240</td>
<td>.868</td>
</tr>
<tr>
<td>Sex X LET Level</td>
<td>5.393</td>
<td>3</td>
<td>1.798</td>
<td>.240</td>
<td>.868</td>
</tr>
<tr>
<td>Explained</td>
<td>126.889</td>
<td>7</td>
<td>18.127</td>
<td>2.420</td>
<td>.024</td>
</tr>
<tr>
<td>Residual</td>
<td>816.359</td>
<td>109</td>
<td>7.490</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>943.248</td>
<td>116</td>
<td>8.131</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A T test for independent samples was conducted for self-esteem by the two different LET levels, see Table 7. The self-esteem variable under the basic and advance LET level did indicate a significance pairwise contrast. The results of the T test of self-esteem and LET level produced a Pooled Variance Estimate of .014 for 2 tail probability.

Table 7.-- T-Test for Independent Samples of LET Levels by Self-Esteem

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Number of cases</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Std Error</th>
<th>Pooled Variance Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Esteem T value 2-Tail Prob</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>57</td>
<td>37.614</td>
<td>2.704</td>
<td>.358</td>
<td>-2.49</td>
</tr>
<tr>
<td>Advance</td>
<td>60</td>
<td>38.900</td>
<td>2.868</td>
<td>.370</td>
<td></td>
</tr>
</tbody>
</table>

The significant findings of the LET level variable in the two-way ANOVA and the significant pairwise comparison in the T test indicates that a significant difference exists in students' self-esteem development between students in the basic LET level and students in the advance LET level. Null hypothesis 1 is therefore rejected.

Hypotheses 2

Hypotheses 2 hypothesizes no significant difference in learning skills development between students in the basic LET level and students in the advance LET level. Table 8 displays cell means and standard deviations of learning skills by the two different LET levels. Students in the advance LET level scored 2.521 higher on the learning skills scale than the students in the basic LET level, 25.050 versus 27.571, respectively. (Keep in mind that the learning skills scale is reversed for this experiment.) Table 9 displays the results of the two-way ANOVA, Learning skills by Sex and LET Level. In Table 9 a significant finding exists in the main effects, learning skills, with LET level at the .05 alpha
level. The LET level variable produced an F value of 5.053 and Sig of F value .003 in the two-way ANOVA summary table. No other significant findings on the main effects or interactions were found by this analysis. This finding between learning skills and LET level indicates that the two LET levels differ significantly from each other in terms of the learning skills variable.

Table 8.--Cell Means and Standard Deviations of Learning Skills by LET Levels

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>27.571</td>
<td>3.463</td>
<td>57</td>
</tr>
<tr>
<td>Advance</td>
<td>25.050</td>
<td>3.245</td>
<td>60</td>
</tr>
</tbody>
</table>

Table 9.--Analysis of Variance Learning Skills by Sex and LET Levels

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F Value</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>198.390</td>
<td>4</td>
<td>49.598</td>
<td>4.253</td>
<td>*.003</td>
</tr>
<tr>
<td>Sex</td>
<td>9.369</td>
<td>1</td>
<td>9.369</td>
<td>.803</td>
<td>.372</td>
</tr>
<tr>
<td>LET Level</td>
<td>176.810</td>
<td>3</td>
<td>58.937</td>
<td>5.053</td>
<td>*.003</td>
</tr>
<tr>
<td>2-way Interactions</td>
<td>6.755</td>
<td>3</td>
<td>2.252</td>
<td>.193</td>
<td>.901</td>
</tr>
<tr>
<td>Sex X LET Level</td>
<td>6.755</td>
<td>3</td>
<td>2.252</td>
<td>.193</td>
<td>.901</td>
</tr>
<tr>
<td>Explained</td>
<td>205.145</td>
<td>7</td>
<td>29.306</td>
<td>2.513</td>
<td>.020</td>
</tr>
<tr>
<td>Residual</td>
<td>1247.951</td>
<td>107</td>
<td>11.663</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1453.096</td>
<td>114</td>
<td>12.746</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A T test for independent samples was conducted for learning skills by the two different LET levels (see Table 10). The learning skills variable under the basic LET level and advance LET level did indicate a significance pairwise contrast. The results of the T test comparison of learning skills by LET level produced a Pooled Variance Estimate for a 2 tail probability of 0.000.

Table 10.-- T-Test for Independent Samples of LET Levels by Learning Skills

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of cases</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Std Error</th>
<th>Pooled Variance Estimate</th>
<th>T value</th>
<th>2-Tail Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>57</td>
<td>27.571</td>
<td>3.463</td>
<td>.463</td>
<td>-2.49</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Advance</td>
<td>60</td>
<td>25.050</td>
<td>3.245</td>
<td>.422</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The significant findings of the LET level variable in the two-way ANOVA and the significant pairwise comparison in the T test indicate that a significant difference in student's learning skills development exists between the basic LET level and the advance LET level. Null hypothesis 2 is therefore rejected.

**Hypotheses 3**

Hypotheses 3 hypothesizes no significant difference in self-esteem development in students participating in the JROTC program over a six month period. Analysis of Tables 11 and 12, cell means and standard deviations, gathered for the pre-test and post-test, respectfully, indicate an increase in cell means and 95 percent confidence intervals for both the basic and advance LET levels in relation to the self-esteem variable. The post-test self-esteem population mean scores increased almost an entire point, from 38.274 on the
initial test to 39.111. Similarly the 95 percent confidence interval shifted toward the upper tail by almost a full point. The pre-test scores possessed a 95 percent confidence interval ranging from 37.751 to 38.796. The 95 percent confidence interval for the post-test ranges from 38.535 to 39.688.

Table 11.--Pre-Test Cell Means and Standard Deviations of Self-Esteem by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>37.704</td>
<td>2.812</td>
<td>27</td>
<td>36.591 38.816</td>
</tr>
<tr>
<td>Basic</td>
<td>37.533</td>
<td>2.649</td>
<td>30</td>
<td>36.544 38.522</td>
</tr>
<tr>
<td>Advance</td>
<td>39.553</td>
<td>2.758</td>
<td>38</td>
<td>38.646 40.459</td>
</tr>
<tr>
<td>Advance</td>
<td>37.773</td>
<td>2.759</td>
<td>22</td>
<td>36.549 38.996</td>
</tr>
<tr>
<td>Entire Sample</td>
<td>38.274</td>
<td>2.852</td>
<td>117</td>
<td>37.751 38.796</td>
</tr>
</tbody>
</table>

Table 12.--Post-Test Cell Means and Standard Deviations of Self-Esteem by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>39.074</td>
<td>3.463</td>
<td>27</td>
<td>37.704 40.444</td>
</tr>
<tr>
<td>Basic</td>
<td>39.067</td>
<td>3.073</td>
<td>30</td>
<td>37.919 40.214</td>
</tr>
<tr>
<td>Advance</td>
<td>39.684</td>
<td>2.781</td>
<td>38</td>
<td>38.770 40.598</td>
</tr>
<tr>
<td>Advance</td>
<td>38.227</td>
<td>3.436</td>
<td>22</td>
<td>36.704 39.751</td>
</tr>
</tbody>
</table>
Table 13 displays a simple repeated measures analysis of self-esteem by LET level. The between subjects produced an F value of 3.22 and Sig of F value of .025 for the LET level variable. This significant finding indicates the significant differences between students in the basic LET level and students in the advance LET level in relation to the self-esteem variable. However, further in Table 13 the interaction of LET Level by Time is found not to be significant. However, the time source of variation does possess a significant Sig of F value of .015. This significant time value indicates that over time, six months in this experiment's case, the self-esteem scores from the pre-test to the post-test approach each other to the point that the difference between the two self-esteem scores merge past the critical value point and are no longer significant. Because no significant difference exists in self-esteem scores between the test and re-test the null hypothesis is not rejected.

Table 13.--Simple Repeated Measures of Self-Esteem by LET Levels

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Cells</td>
<td>49.5852</td>
<td>113</td>
<td>10.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LET Level</td>
<td>1505.9703</td>
<td>3</td>
<td>33.49</td>
<td>3.22</td>
<td>.025</td>
</tr>
<tr>
<td>Within Cells</td>
<td>794.78</td>
<td>113</td>
<td>7.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>42.82</td>
<td>1</td>
<td>42.84</td>
<td>6.09</td>
<td>* .015</td>
</tr>
<tr>
<td>LET Level by Time</td>
<td>22.18</td>
<td>3</td>
<td>7.39</td>
<td>1.05</td>
<td>.373</td>
</tr>
</tbody>
</table>

Upon further analysis of the pre-test and post-test means scores the reason for not rejecting hypothesis 3 becomes evident. All the students' self-esteem mean scores
increased over the six month period (See Table 14). However, the students in the basic LET level made self-esteem score gains at almost five times the rate of the advance LET level students, 1.452 versus .293. It was this gain by the basic LET level students which pushed the post-test mean scores past the critical value point and allowed hypothesis 3 not to be rejected.

Table 14.--Pre-Test Post-Test Comparisons of Self-Esteem by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
<th>Avg Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>37.704</td>
<td>39.074</td>
<td>+1.370</td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>37.533</td>
<td>39.067</td>
<td>+1.534</td>
<td>+1.452</td>
</tr>
<tr>
<td>Advance</td>
<td>39.553</td>
<td>39.684</td>
<td>+.131</td>
<td></td>
</tr>
<tr>
<td>Advance</td>
<td>37.773</td>
<td>38.227</td>
<td>+.454</td>
<td>+.293</td>
</tr>
<tr>
<td>Population</td>
<td>38.274</td>
<td>39.111</td>
<td>.837</td>
<td></td>
</tr>
</tbody>
</table>

Hypotheses 4

Hypotheses 4 hypothesizes no significant difference in learning skills development in students participating in the JROTC program over a six month period. Analysis of Tables 15 and 16, cell means and standard deviations, gathered from the pre-test and post-test, respectfully, indicate an decrease in cell means and 95 percent confidence intervals for both the basic and advance LET levels in relation to the learning skills variable. (Keep in mind again that the scale is reversed for the learning skills variable.) The learning skills population mean scores decreased from 26.278 on the pre-test to a value of 26.896 on the post-test. Similarly the 95 percent confidence interval shifted toward the lower tail. The
pre-test possessed a 95 percent confidence interval ranging from 25.619 to 26.938. The 95 percent confidence interval for the post-test ranges from 26.227 to 27.565.

Table 15.--Pre-Test Cell Means and Standard Deviations of Learning Skills by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>27.885</td>
<td>3.713</td>
<td>27</td>
<td>26.385 29.384</td>
</tr>
<tr>
<td>Basic</td>
<td>27.300</td>
<td>3.271</td>
<td>30</td>
<td>26.079 28.521</td>
</tr>
<tr>
<td>Advance</td>
<td>24.919</td>
<td>3.303</td>
<td>38</td>
<td>23.818 26.020</td>
</tr>
<tr>
<td>Entire Sample</td>
<td>26.278</td>
<td>3.570</td>
<td>117</td>
<td>25.619 26.938</td>
</tr>
</tbody>
</table>

Table 16.--Post-Test Cell Means and Standard Deviations of Learning Skills by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>27.846</td>
<td>4.106</td>
<td>27</td>
<td>26.188 29.504</td>
</tr>
<tr>
<td>Basic</td>
<td>26.900</td>
<td>3.231</td>
<td>30</td>
<td>25.694 28.106</td>
</tr>
<tr>
<td>Advance</td>
<td>26.432</td>
<td>3.884</td>
<td>38</td>
<td>25.137 27.727</td>
</tr>
<tr>
<td>Advance</td>
<td>26.545</td>
<td>3.035</td>
<td>22</td>
<td>25.200 27.891</td>
</tr>
</tbody>
</table>

The simple repeated measures analysis of learning skills produced Table 17. Table 17 displays an F value of 4.35 and Sig of F value of .006 for the between cells source of
variation. This significant finding indicates that there exists a significant differences in the between subject effects on the LET level variable in relation to learning skills variable. Further analysis of Table 18 shows no other results are found to be significant. The statistical analysis of the simple repeated measures reinforces earlier results which indicated that the difference between the pre-test and post-test scores in relation to the learning skills variable were simply not significant over the test period. Based on the lack of significance the null hypothesis is not rejected.

Table 17.—Simple Repeated Measures Analysis of Learning Skills by LET Levels

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Cells</td>
<td>1552.81</td>
<td>111</td>
<td>13.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LET Level</td>
<td>182.45</td>
<td>3</td>
<td>60.82</td>
<td>4.35</td>
<td>.006</td>
</tr>
<tr>
<td>Within Cells</td>
<td>1171.88</td>
<td>111</td>
<td>10.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>19.10</td>
<td>1</td>
<td>19.10</td>
<td>1.81</td>
<td>.181</td>
</tr>
<tr>
<td>LET Level by Time</td>
<td>40.70</td>
<td>3</td>
<td>13.57</td>
<td>1.28</td>
<td>.283</td>
</tr>
</tbody>
</table>

Upon further analysis of the pre-test and post-test means scores for learning skills, the reason for not rejecting hypothesis becomes evident. The students in the basic LET level increased their learning skills scores over the six month period. However, the students in the advance LET level lost learning skills score at over three times the rate of the basic LET level students, plus .395 versus negative 1.393. It was this combination of gains by the basic LET level students and declines of the students in the advance LET
level which pushed the post-test mean scores past the critical value point and allowed hypothesis 4 not to be rejected.

Table 18.--Pre-Test Post-Test Comparisons of Learning Skills by LET Levels

<table>
<thead>
<tr>
<th>LET Level</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
<th>Avg Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>27.885</td>
<td>27.846</td>
<td>+.039</td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>27.300</td>
<td>26.900</td>
<td>+.040</td>
<td>+.395</td>
</tr>
<tr>
<td>Advance</td>
<td>24.919</td>
<td>26.432</td>
<td>-1.513</td>
<td></td>
</tr>
<tr>
<td>Advance</td>
<td>25.273</td>
<td>26.545</td>
<td>-1.272</td>
<td>-1.393</td>
</tr>
<tr>
<td>Population</td>
<td>26.278</td>
<td>26.896</td>
<td>-.618</td>
<td></td>
</tr>
</tbody>
</table>

Hypotheses 5

Hypotheses 5 hypothesizes no significant difference in self-esteem development in students based on the gender of the student. The initial two-way ANOVA, Table 6, produced an F value of 3.819 and Sig of F value of .053 for the sex variable (See Table 5). The Sig of F value, though close, did not meet the experiment's alpha level of .05.

Analysis of Tables 19 and 20, cell means and standard deviations, indicate an increase in both cell means and 95 percent confidence intervals for the sex variable in relation to the self-esteem variable. The self-esteem population mean scores increased almost an entire point, from 38.274 on the pre-test to 39.111 on the post-test. More importantly both male and female self-esteem mean scores increased from the pre-test to the post-test (See Table 21). The females self-esteem mean score increase of 1.280 points. The males self-esteem mean score increased at a smaller percentage. Males gained only .508 points on their self-esteem mean score. Similarly the 95 percent
confidence interval shifted to the upper tail by almost a full point. The pre-test population possessed a 95 percent confidence interval ranging from 37.751 to 38.796. The post-test population 95 percent confidence interval ranges shifted to the upper tail from 38.535 to 39.688.

Table 19.--Pre-Test Cell Means and Standard Deviations of Self-Esteem by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38.716</td>
<td>2.762</td>
<td>67</td>
<td>38.043 to 39.390</td>
</tr>
<tr>
<td>Female</td>
<td>37.680</td>
<td>2.889</td>
<td>50</td>
<td>36.859 to 38.501</td>
</tr>
<tr>
<td>Entire Sample</td>
<td>38.274</td>
<td>2.852</td>
<td>117</td>
<td>37.751 to 38.796</td>
</tr>
</tbody>
</table>

Table 20.--Post-Test Cell Means and Standard Deviations of Self-Esteem by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>39.224</td>
<td>3.176</td>
<td>67</td>
<td>38.449 to 39.999</td>
</tr>
<tr>
<td>Female</td>
<td>38.960</td>
<td>3.136</td>
<td>50</td>
<td>38.069 to 39.851</td>
</tr>
<tr>
<td>Entire Sample</td>
<td>39.111</td>
<td>3.148</td>
<td>117</td>
<td>38.535 to 39.688</td>
</tr>
</tbody>
</table>
Table 21.--Pre-Test Post-Test Comparisons of Self-Esteem by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38.716</td>
<td>39.224</td>
<td>+.508</td>
</tr>
<tr>
<td>Female</td>
<td>37.680</td>
<td>38.960</td>
<td>+1.280</td>
</tr>
<tr>
<td>Population</td>
<td>38.274</td>
<td>39.111</td>
<td>+.837</td>
</tr>
</tbody>
</table>

The analysis of Table 22, a simple repeated measures analysis of self-esteem by sex between subjects effects, did not show any significant findings. The sex variable by self-esteem possess an F value of 2.22 and a Sig of F value of .139. The Sig of F value does not approach this experiment's alpha level of .05. This lack of significance indicates that both males and females scored similarly on the self-esteem variable. Table 22 also displays the self-esteem by sex involving time within subject effects value. Similar to earlier results found in Table 14, the interaction of Sex by Time is found not to be significant. The time source of variation, again, does possess a Sig of F value of .012. This significant time Sig of F value indicates that over the test period no significance exists between the self-esteem scores by sex variable. These results reinforce earlier data which indicated that the sex of the student had no significant effect on the self-esteem variable. These findings indicate that both male and female students are being treated and responding to self-esteem development equally. Based on the non significant statistical analysis null hypothesis 5 is not rejected.
Table 22.--Simple Repeated Measures Analysis of Self-Esteem by Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Cells</td>
<td>1251.64</td>
<td>115</td>
<td>10.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>24.21</td>
<td>1</td>
<td>24.21</td>
<td>2.22</td>
<td>.139</td>
</tr>
<tr>
<td>Within Cells</td>
<td>808.41</td>
<td>113</td>
<td>7.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>45.74</td>
<td>1</td>
<td>45.74</td>
<td>6.51</td>
<td>*.012</td>
</tr>
<tr>
<td>Sex by Time</td>
<td>8.54</td>
<td>3</td>
<td>8.54</td>
<td>1.22</td>
<td>.273</td>
</tr>
</tbody>
</table>

Hypotheses 6

Hypotheses 6 hypothesizes no significant difference in learning skills development based on students' gender. Table 8, the two-way ANOVA summary table of the sex variable by the learning skills variable, produced an F value of .803 with a Sig of F value of .372. The Sig of F value did not meet the experiment's alpha level of .05.

Analysis of Tables 23 and 24, cell means and standard deviations, indicate an increase in both cell means and 95 percent confidence intervals for the sex variable in relation to the learning skills variable. The learning skills population mean scores decreased from 26.278 on the pre-test to 26.896 on the post-test (See Table 25). More importantly both males and females learning skills means decreased from the pre-test to the post-test. The males learning skills mean score displayed a decrease of .727 points. The females decreased their learning skills mean score at a smaller percentage. Females lost only .466 points on their learning skills mean score. Similarly the 95 percent confidence interval shifted to the lower tail. The pre-test possessed a 95 percent confidence interval ranging from 25.619 to 26.938. The post-test 95 percent confidence interval ranges from 26.227 to 27.565. This again is a downward shift of the 95 percent
confidence interval ranges. Key to these statistical results is that both males and females scores shifted in same direction, negatively.

Table 23.--Pre-Test Cell Means and Standard Deviations of Learning Skills by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>25.776</td>
<td>3.853</td>
<td>19</td>
<td>24.669 - 26.882</td>
</tr>
<tr>
<td>Entire Sample</td>
<td>26.278</td>
<td>3.570</td>
<td>115</td>
<td>25.619 - 26.938</td>
</tr>
</tbody>
</table>

Table 24.--Post-Test Cell Means and Standard Deviations of Learning Skills by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mean</th>
<th>Std Dev</th>
<th>N</th>
<th>95 percent Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>26.245</td>
<td>2.948</td>
<td>49</td>
<td>25.398 - 27.092</td>
</tr>
</tbody>
</table>

Table 25.--Pre-Test Post-Test Comparisons of Learning Skills by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26.652</td>
<td>27.379</td>
<td>-.727</td>
</tr>
<tr>
<td>Female</td>
<td>25.776</td>
<td>26.245</td>
<td>-.469</td>
</tr>
<tr>
<td>Population</td>
<td>26.278</td>
<td>26.896</td>
<td>-.618</td>
</tr>
</tbody>
</table>
The analysis of Table 26 displays learning skills by sex did not show any significant findings, though the sex variable did produced an F value of 3.82 and a Sig of F value of .053. Though close, the Sig of F value did not meet the experiment's alpha score of .05. This lack of significance indicates that both males and females scored similarly on the learning skills variable. Table 26 further displays the analysis learning skills by sex involving time within subject effects. Similar to results found in Table 21, the interaction of Sex by Time, F value of .09 and Sig of F value of .768, are found not to be significant. The time source of variation possess an F value of 1.88 with Sig of F value of .173. Again these neither of these values are significant. These results reinforce earlier statistical analysis which indicated that the sex variable had no effect on the learning skills variable. These analysis indicate that both male and female students are being treated and responding to learning skills instruction equally. Based on the statistical results null hypothesis 6 is not rejected.

Table 26.--Simple Repeated Measures Analysis of Learning Skills By Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
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<td>113</td>
<td>14.85</td>
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</tr>
<tr>
<td>Sex</td>
<td>56.80</td>
<td>1</td>
<td>56.80</td>
<td>3.82</td>
<td>.053</td>
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<tr>
<td>Within Cells</td>
<td>1211.65</td>
<td>113</td>
<td>10.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>20.14</td>
<td>1</td>
<td>20.14</td>
<td>1.88</td>
<td>.173</td>
</tr>
<tr>
<td>Sex by Time</td>
<td>.94</td>
<td>1</td>
<td>.94</td>
<td>.09</td>
<td>.768</td>
</tr>
</tbody>
</table>
Summary

Chapter 4 contains statistical analysis of the dependent variables, self-esteem and learning skills, by the independent variables, LET level and student's sex. Several different statistical procedures were utilized to test the various hypothesis of this study. A two-way ANOVA, T test for independent samples, and a simple repeated measures analysis procedures were all utilized for statistical analysis of the experiment's data.

A two-way ANOVA and a T test for independent samples were utilized to examine null hypothesis 1. A significant difference in self-esteem development between students in the basic LET level and students in the advance LET level was found. These statistical results indicated that a statistical significance does not exist between the two different LET levels. Therefore the null hypothesis was rejected.

A two-way ANOVA and a T test for independent samples were utilized to examine null hypothesis 2; there is no significant difference in learning skills development between students at the basic level and students at the advance level participating in the JROTC program. The statistical analysis of data indicated that a statistical significance does exist between the basic LET level and advance LET level. Therefore the null hypothesis was rejected.

A simple repeated measures analysis with time effects analyzed both the pre-test and post-test data to examine null hypothesis 3; there is no significant difference in self-esteem development in students participating in the JROTC program over a six month period. The statistical results of the simple repeated measures analysis procedure indicated that a statistical significant difference does not exist between the pre-test and post-test self-esteem scores. Therefore the null hypothesis was not rejected.

A simple repeated measures analysis with time effects analyzed both the pre-test and post-test data to examine null hypothesis 4; there is no significant difference in learning skills development in students participating in the JROTC program over a six
month period. The statistical results of the simple repeated measures analysis procedure indicated that a statistical significance does not exist between the pre-test and post-test learning skills scores. Therefore the null hypothesis was not rejected.

A two-way ANOVA procedure were utilized to examine null hypothesis 5. No significant difference in self-esteem development in students based on students' gender was found. The statistical results indicated that both male and female students responded to the JROTC instruction equally with no statistical significance difference based on self-esteem development. Therefore the null hypothesis was not rejected.

A two-way ANOVA was utilized to examine null hypothesis 6, there is no significant difference in learning skills development in students based on the gender of the students. The statistical results of the statistical analysis indicated that no statistical significance exists between male and female students participating in the JROTC program. Therefore the null hypothesis was not rejected.
CHAPTER 5
FINDINGS

Chapter 5 contains the findings of the experiment. Summaries on all tests conducted on all null hypothesis are presented and the implications of rejecting or not rejecting the null hypothesis are discussed. Limitations of the study are identified and presented for consideration. Recommendations for further research are suggested. Conclusions drawn from the data analysis of the dependent variables, self-esteem and learning skills, and independent variables, LET level and student's sex, are presented.

Summary of Findings

Hypothesis One: Difference in Self-Esteem Development Between LET Levels

Null hypothesis 1, there is no significant difference in self-esteem development between students in the basic LET level and students in the advance LET level, was rejected for this experiment. The two way ANOVA on self-esteem by LET level and T test for independent samples statistically established a significant difference between the basic and advance LET level students. The implication drawn from rejecting the null hypothesis is that as participation in the Army JROTC program increases the self-esteem level of the students increases. Detractors to this conclusion may well argue that the noted significant increase in self-esteem is based solely, or on a large part, on the maturation factor of the students. However, numerous studies have been conducted evaluating self-esteem in relation to young females during their high school years (American Association of University Women, 1990). These studies have reported results which have shown a decrease rather than an increase in the self-esteem level of young females. Numerous reasons have been postulated for this decline of self-esteem, but the one
common factor among the studies is that minority females are more affected than their non-minority counterparts. This is especially true of Hispanic females. Though this study did not consider the ethnicity of the test population, since all JROTC classes are open to all registered high school students, the majority of the females who participated in the experiment were minorities with a huge portion of the advance LET level being Hispanic. This finding would indicate that JROTC is having a significant effect on reversing a downward trend encountered by many female students. This finding would be in accordance with one of the major goals of the JROTC program, that is increasing the self-esteem level of the students.

**Hypothesis Two: Difference in Learning Skills Development Between LET Levels**

Null hypothesis 2, there is no significant difference in learning skills development between students in the basic LET level and students in the advance LET level, was rejected for this experiment. The two way ANOVA on learning skills by LET levels and T test for independent samples statistically established a significant difference between the basic and advance LET level students. The implication drawn from rejecting the null hypothesis is that as students participate in the JROTC program their learning skills are developed. As part of the program of instruction, goal setting, time management, planning and organization skills are all addressed by JROTC instruction during the school year. An increase of learning skills level over the duration of participation in the program was an a priori assumption.

**Hypothesis Three: Difference in Self-Esteem Development After Six Months**

Null hypothesis 3, there is no significant difference in self-esteem development in students participating in the JROTC program over a six month period, was not rejected for this study. The simple repeated measures analysis with time procedure established that no significant difference exists between the pre-test and the subsequent post-test self-esteem scores. Even though the statistical analysis did not find a significant difference
between both sets of test data there was, in fact, an increase in self-esteem levels at all four participating high schools. Review of the results highlight that the students in the basic LET level high schools out gained the advanced LET level high schools on the self-esteem variable. The performance of the basic level high schools may be partially due to the novelty of the JROTC program not only in the high school but also in the host city. The two basic LET level JROTC programs are the only ones in operation in Beecher and Lansing. The Hawthorn Effect by the young students may have also contributed to the strong increased self-esteem scores on the post-test. However, an argument must be made that the JROTC programs are simply accomplishing what the Army has stated all along. Participation in JROTC increases students' self-esteem levels.

**Hypothesis Four: Difference in Learning Skills Development After Six Months**

Null hypothesis 4, there is no significant difference in learning skills development between students participating in the JROTC program over a six month period, was not rejected for this study. The simple repeated measures analysis with time procedure established that no significant difference exists between the pre-test and the post-test learning skills scores. Actually, analysis of this null hypothesis presented confounded results. As stated in the earlier analysis of null hypothesis 2, an a priori assumption was that the learning skills variable score would increase over time as participation in the JROTC program increased. This, however, was not the case in analyzing this hypothesis. The post-test learning skills variable scores actually decreased in comparison to the initial test scores at the different LET levels and populations levels. The two advance LET level high schools actually decreased at a somewhat greater rate than the basic LET level high schools. A possible reason for this decline may be that the six month elapsed time between survey administrations was simply not enough time to accurately measure the learning skills variable. The elapsed time period also may not been enough to overcome students' test familiarity with the survey. More inferences could have been drawn from
this data if not for the fact that both populations reacted with a uniformly downward trend.

**Hypothesis Five: Difference in Self-Esteem Development Between Sexes**

Null hypothesis 5, there is no significant difference in self-esteem development in students participating in the JROTC program based on student's gender was not rejected for this study. A two way ANOVA procedure established that no significant difference exists between the pre-test and the post-test self-esteem scores based on the students' gender. Though the statistical procedures did not find a significant difference between both sets of test data the implications of not rejecting the null hypothesis are very favorable. The major implication of not rejecting the null hypothesis is that both males and females are being treated equitably in the JROTC program and are responding accordingly. The fact that the females are not statistically significant different from males indicates a major positive effect of self-esteem development while participating in the JROTC program. A major contributing factor in this area is that both males and females are considered for all leadership positions within the JROTC program irregardless of their gender. This equability allows females an opportunity to compete and receive recognition on equal grounds with their male counterparts. This study did not address the specific gender breakdown of each leadership positions at each high school. However, as a point of equability illustration, the head cadet position, the high school battalion commander, at each of the advance LET level high schools are occupied by female students.

**Hypothesis Six: Difference in Learning Skills Development Between Sexes**

Null hypothesis 6, there is no significant difference in learning skills development in students participating in the JROTC program based on student's gender, was not rejected for this study. A two way ANOVA procedure established that no significant difference exists between the pre-test and the post-test learning skills levels. Even though the statistical procedures did not find a significant difference between both sets of test data the
implications of not rejecting the null hypothesis are favorable. The major implication, again, is that females are being treated equitably within the JROTC program and are responding accordingly.

Limitations of The Study

Foremost and paramount the findings of this study should be considered preliminary and more descriptive than predictive. Limited generalizations may be drawn based on the statistical analysis of the dependent variables, self-esteem and learning skills. However, with so little research written in analyzing the dependent variable, learning skills, in relation to the JROTC program, caution should be exercised. Further studies should be conducted to strengthen the regression factors in predicting the effect of the JROTC program on students.

One of the major limitations of this study is that there were no general population comparisons with the JROTC populations. The focus of this study was to examine the treatment effects of the JROTC program essentially from introduction to the program to completion four years later. More statistically significant data may be gathered by conducting an experiment making this comparison.

Another limitation of this study was the measurement tool for analyzing the learning skills variable. This measurement tool was designed specifically for this study. Even though an item analysis and reliability analysis indicated a moderately strong alpha level for this portion of the survey more analysis with a larger N will allow for refinement and more generalized utilization.

One limitation inherent to dealing with students of any kind is the lack of a control over the experiment population. School requirements, scheduling, student absenteeism, administration apathy, and in the case of this study the long driving distance between high school locations caused more than the normal headaches and pains.
Finally one limitation which should be address on follow-up studies in this area is the experiment design. Some follow-up experiment designs should address student categories in terms of age, ethnicity, grade level, and even leadership position within the battalion by gender. Inclusion of these factors into later experiment designs should provide valuable information which this study did not address.

Recommendations For Further Research

With the large number of JROTC programs in the country, predominately located in the southeast, this study examined only four JROTC programs located in the midwest. This study may, therefore, have presented somewhat skewed results. It is strongly recommend that replication of this study at other locations be conducted. Administration of this survey or a similar one to a greater selection of high schools throughout the country, would provide more broad-based inferences on the effectiveness of the JROTC program. These follow-up studies should address a population comparison between JROTC cadets and regular high students, the ethnicity of the population, grade level, age, and an analysis of the relationship of leadership position to gender.

Longitudinal studies on a comparison of JROTC cadets and high school students, to include an extended period after high school graduation, should be conducted. Only through long term analysis can a true evaluation of the effectiveness of the JROTC program be obtained. This type of study may be expensive and time consuming, but when the vast amount of money spent annually by the federal government, local school districts and high schools is taken into consideration, it would certainly be money well spent.

The final aspect for further research is in the area of JROTC students' parents perception and evaluation of the program. Lobbyists, accountants and activists all have expressed an opinion as to the effectiveness and appropriateness of the JROTC program, but no one has yet asked the average high school mom and dad who have a son or daughter participating in the program for their input. Additionally, all published studies of
the JROTC program have been directed at the treatment effect on students, like this study, or the perceptions of some high school administrators and teachers on the effectiveness of the program, such as Harrile and Carruthers. Further research should incorporate input from the JROTC student's parents as to the effectiveness of the program and any other effects the program may have on student development.

Conclusions

Analysis of all test data indicates that participation in the Army JROTC program has a positive effect on student's self-esteem. This positive effect on self-esteem is more significant in females than males. The Army JROTC program is definitely meeting its stated goal of increasing student's self-esteem through participation in the program. Analysis of the learning skills variable initially provided similar results to the self-esteem variable. However, confounded results were obtained from further statistical analysis. These confounded results underscore the need to conduct further research in this area. Each of the recommendations for future research would provided valuable empirical data for analyzing the effectiveness of the JROTC program on a broad base.

In conclusion, this study provided valuable data concerning self-esteem and learning skills development in students participating in the Army Junior Reserve Officers Training Corps program.
APPENDIX 1

STUDENT CONSENT FORM
CONSENT FORM

Self Esteem and Learning Skills Development in Students Participating in JROTC

I, ______________________________________, the parent or guardian of ________________________, a minor of _____ years of age, hereby consent to her/his participation in a research project being conducted by Major Ruben Rivas, JROTC.

I understand that the purpose of this study is to measure self esteem and learning skills differences in students who participate in JROTC while in high school. I also understand that this measurement will be conducted by filling out a survey during school time which will not have any risks or provide any discomfort to the student. The potential benefits of this study are that it will help determine the effectiveness of the JROTC program in our high school.

I acknowledge that Major Ruben Rivas, JROTC, has fully explained to me the risks involved and the need for the research; has informed me that I may withdraw my child from participation at any time without prejudice; has offered to answer any inquiries which I may make concerning the procedure to be followed; and has informed me that I will be given a copy of this consent form.

I freely and voluntarily consent to my child's participation in this research project.

(Signature of Investigator or assistant) (Date)

(Signature of Parent) (Date)
APPENDIX 2

COOPERSMITH SELF ESTEEEM INVENTORY--ADULT FORM
Like   Unlike
Me     Me
☐  ☐  1. Things usually don't bother me.
☐  ☐  2. I find it very hard to talk in front of a group.
☐  ☐  3. There are lots of things about myself I'd change if I could.
☐  ☐  4. I can make up my mind without too much trouble.
☐  ☐  5. I'm a lot of fun to be with.
☐  ☐  6. I get upset easily at home.
☐  ☐  7. It takes me a long time to get used to anything new.
☐  ☐  8. I'm popular with persons my own age.
☐  ☐  9. My family usually considers my feelings.
☐  ☐  10. I give in very easily.
☐  ☐  11. My family expects too much of me.
☐  ☐  12. It's pretty tough to be me.
☐  ☐  13. Things are all mixed up in my life.
☐  ☐  14. People usually follow my ideas.
☐  ☐  15. I have a low opinion of myself.
☐  ☐  16. There are many times when I would like to leave home.
☐  ☐  17. I often feel upset with my work.
☐  ☐  18. I'm not as nice looking as most people.
☐  ☐  19. If I have something to say, I usually say it.
☐  ☐  20. My family understands me.
☐  ☐  21. Most people are better liked than I am.
<table>
<thead>
<tr>
<th>Like</th>
<th>Unlike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me</td>
<td>Me</td>
</tr>
<tr>
<td>☐</td>
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<td>☐</td>
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<td>☐</td>
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</tbody>
</table>
APPENDIX 3

JROTC SELF ESTEEM AND LEARNING SKILLS SURVEY
Male  _______  Female  _______

LET level  _______

Grade level  _______

True  False

☐  ☐  1. Things usually don't bother me.

☐  ☐  2. I find it very hard to talk in front of a group.

☐  ☐  3. There are lots of things about myself I'd change if I could.

☐  ☐  4. I can make up my mind without too much trouble.

☐  ☐  5. I'm a lot of fun to be with.

☐  ☐  6. I get upset easily at home.

☐  ☐  7. It takes me a long time to get used to anything new.

☐  ☐  8. I'm popular with persons my own age.

☐  ☐  9. My family usually considers my feelings.

☐  ☐ 10. I give in very easily.

☐  ☐ 11. My family expects too much of me.

☐  ☐ 12. It's pretty tough to be me.

☐  ☐ 13. Things are all mixed up in my life.

☐  ☐ 14. People usually follow my ideas.

☐  ☐ 15. I have a low opinion of myself.

☐  ☐ 16. There are many times when I would like to leave home.

☐  ☐ 17. I often feel upset with my work.

☐  ☐ 18. I'm not as nice looking as most people.

☐  ☐ 19. If I have something to say, I usually say it.

87
<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
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</thead>
<tbody>
<tr>
<td>☐</td>
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<td>☐</td>
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</tr>
<tr>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>☐</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

41. I like planning my weekends.
42. I like planning things carefully, well ahead of time.
43. I do my school work as soon as possible.
44. Learning is fun.
45. I like everything in its place.
46. I always arrive at appointments early.
APPENDIX 4

ANALYSIS OF VARIANCE SUMMARY TABLE
<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Means Squares</th>
<th>F Value</th>
<th>Sig of F</th>
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</thead>
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<td>Main Effects</td>
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<tr>
<td>Variable 1</td>
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<tr>
<td>Variable 2</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-way Interactions</td>
<td></td>
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<tr>
<td>Variable 1 X</td>
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APPENDIX 5

PERMISSION REQUEST AND APPROVAL
1 February 1995

From: Ruben O. Rivas, Major, US Army, Scholarship Counselor, Bldg. 142, Ft Sheridan, IL 60037.

Subject: Request permission to use Figures.

1. I request to use figure 10-5, page 246 and figure 13-1, page 295 from A Theory of Goal Setting & Task Performance, written by Edwin A. Locke and Gary P. Latham, published 1990 by Prentice-Hall, Inc.

2. I am a doctoral student attending Loyola University Chicago and currently writing my dissertation. The figures will be used as enclosures of my dissertation which is titled Self Esteem and Learning Skills Development in Students Participating in the Army Junior Reserve Officers Training Corps (ROTC) Program. The variable learning skills for this study is made up of the constructs of: goal setting, time management and planning, and organization skills. The use of these two figures will greatly enhance my dissertation.

3. Thank you. Your help is greatly appreciated.

Ruben O. Rivas
Major, US Army
Scholarship Counselor

2/15/95

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Terri Dobrowski
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Permissions Department
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VITA

The author, Ruben Ortiz Rivas was born and raised in San Antonio, Texas. Shortly after graduating for Harlandale High School, he married Janie Rivas nee Valle. A year later Ruben enlisted in the US Army at the age of 19.

After tours at Fort Polk, Louisiana and in the Federal Republic of Germany Ruben had risen to the rank of staff sergeant (SSG). At that time, he applied to, was accepted into and attended Officer Candidate School (OCS) at Fort Benning, Georgia. Upon graduating from OCS Ruben was commission as a second lieutenant (2LT) in the armor branch. Following career assignments included Fort Hood, Texas; Fort Benning, Georgia; Fort Knox, Kentucky; Fort Leavenworth, Kansas; and the Army Senior ROTC program at Loyola University Chicago. Ruben's last assignment will be at the Army Senior ROTC program at the University of Illinois Chicago as assistant professor of military science with the primary duty as scholarship counselor. In accordance with a normal career progression, Ruben has been promoted through the ranks and now holds the rank of a field grade officer, major.

Ruben has pursued all of his college education during off-duty hours and on weekends. In June 1986, he graduated from the University of Kentucky with a Bachelor of Arts in Public Management degree with honors. At the time of his graduation, Ruben had a grand total of 256 undergraduate semester hours. He continued his education, applied to and was accepted into graduate school. In December 1987, he received a Masters of Education degree from the University of Louisville. In 1990, he applied to and was accepted into the doctoral program in the Department of Counseling and Educational Psychology at Loyola University Chicago.
Major Ruben Ortiz Rivas anticipates retirement from the US Army on December 1, 1995 and a smooth transition into the civilian workplace immediately thereafter.
APPROVAL SHEET

The dissertation submitted by Ruben O. Rivas has been read and approved by the following committee:

Dr. Jack A. Kavanagh, Ph.D., Director
Professor
Counseling Psychology, Loyola University

Barney M. Berlin, Ph.D.
Associate Professor
Curriculum, Instruction, and Educational Psychology, Loyola University

Robert C. Cienkus, Ph.D.
Associate Professor
Curriculum, Instruction, and Educational Psychology, Loyola University

The final copies have been examined by the director of the dissertation and his signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Date: 4/3/95

Dr. Jack A. Kavanagh, Director