

AN EXAMINATION OF EMOTIONAL INTELLIGENCE:  
ITS RELATIONSHIP TO ACADEMIC ACHIEVEMENT IN ARMY JROTC AND THE  
IMPLICATIONS FOR EDUCATION

by

Donna M. Rice

A Dissertation Presented in Partial Fulfillment  
Of the Requirements for the Degree  
Doctor of Philosophy

Capella University

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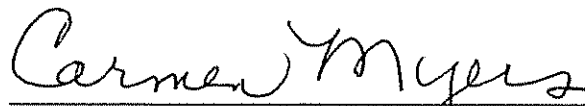
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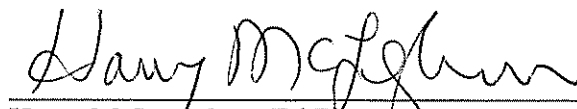
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## Abstract

While the stated ultimate goal of education is academic achievement, attainment of that goal remains elusive. Many educators are making choices that increase academic rigor, sometimes at the expense of programs that might be more effective in meeting the achievement goal.

Correlations between factors that possibly relate to academic achievement, such as emotional intelligence, could at least initiate a discussion about attaining the objective of substantial academic achievement through avenues other than repeated classes of the subject matter.

Much controversy exists in education regarding the balance of intelligence quotient (IQ) and emotional intelligence (EQ). That is, an intense debate persists in secondary education over the importance of learning to read, write, master the sciences and social sciences, and solve mathematical equations versus the importance of adapting to the environment, working cooperatively, responsibly, effectively, and with confidence and passion (Goleman, 1998).

Students who are weak in adaptability, assertiveness, decisiveness, empathy, or commitment could also be inclined to be weak academically. On the other hand, taking time away from the academic schedule to build such skills could degrade academic progress.

The Personal Skills Map<sup>®</sup> is used in this study to explore the relationship of the emotional intelligence it measures to academic achievement as defined by grade point averages. Ten of 11 personal skills, participation in service learning, holding leadership positions, and leader/planner learning styles were found to be significantly correlated with grade point averages. Several implications for education are presented from the results. Suggestions as to ways instructional and political leaders can ensure programs that support student achievement and personal growth are presented as well.

## Dedication

This dissertation is dedicated to my husband Jim, to whom I owe everything. I would not have even started on this journey without his enthusiastic encouragement. More importantly, I could not have possibly completed it without his continuous support.

This labor of love and learning is also dedicated to the Junior Reserve Officers' Training Corps (JROTC) instructors who perform such an incredible job of mentoring and guiding so many young people. These professional military retirees have already sacrificed so much and are now giving back again. They are not guided by a time clock, but rather by their mission. In addition to what they naturally bring to high school students around the world, they have also stepped up to the challenge of integrating technology, embedding research based strategies, and embracing student-centered learning in their classrooms. My husband Jim and I consider them our heroes.

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My professional associates are especially commended for sharing their expertise and insights: Terry Schmitz (The Personal Skills Map<sup>®</sup>), Stefan Neilson (Winning Colors<sup>®</sup>), Larry Martel, Ph.D. (learning styles), Steve Dunn, Ph.D. (teaching methodologies), Steve Huff, Ph.D. (classroom technology), Bob Stevens (statistics), and Vicki Mowery (editing). I also thank Chris Volkman from Conover Company for his technical assistance. I would be remiss if I did not thank George Smith for introducing the Personal Skills Map<sup>®</sup> and Winning Colors<sup>®</sup> to me in a Drop-Out Prevention workshop and for mentoring me for many years in their inclusion into the Army JROTC program. A special thanks goes to Colonel Carlos Glover, my boss, and my workmates who trusted my vision and helped bring it to reality. I wish to thank the Army JROTC instructors and cadets who provided input into the Skills Map Report. This research could not have been completed without their willingness to go above and beyond their already overloaded daily schedules. I also thank my Capella colleagues, Dr. Bob Hauer and soon-to-be Dr. Pat Hubel, whose support and encouragement were invaluable.

Although I realize the purpose for acknowledgements is generally to recognize those who provide professional assistance, without the support of so many of my personal friends and family I could not have completed this doctorate. First and foremost I thank my husband Jim, my

soul mate and best friend, who truly epitomizes 1 Corinthians 13. I also want to thank our children Michelle Mansfield, Michael (Mickey) Marks, Sharon Cantwell, Rachel Rice and Heather Rice for their support and understanding, especially when I spent more time with books than I did with them. I thank Meghan McCall for keeping me in Starbucks coffee which made 20 hour days possible, and my niece Vicki Ann and her husband Russ Rhoads whose sense of humor and steadfast support kept me sane. I thank my brothers and sister – Jim Mowery, Ed.D., for going before me and, as usual, blazing the trail; Tom, who died so unexpectedly and so young right before my third colloquium; Bill, for his quick wit and loyalty; Jack, for always being there for all of us; and Ellen Hagan, for pushing me forward while running right behind me. I thank Laurie Paquin, my ever faithful friend for her support and encouragement. I am eternally grateful to my two sons-in-law Mike Cantwell and Buddy Mansfield who served in Iraq during this quest. I thank my dear departed parents, Larry and Nancy Mowery, for my work ethic and generosity that endowed me with a sense of accomplishment and a sense of peace. And finally, I thank my grandchildren, Jeffrey and Jennifer Cantwell and Renee and Bryant Mansfield for bringing me joy.



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## CHAPTER 1. INTRODUCTION

### Introduction to the Problem

Tension between intelligence quotient (IQ) and emotional intelligence (EQ) manifests itself in heated discussions over the importance of reading, writing, mastering the sciences and social sciences, and solving mathematical equations versus the importance of adapting to the environment, working cooperatively, responsibly, effectively, and with confidence and passion (Goleman, 1998). Students who are not empathetic or able to adapt, assert themselves, make decisions, or commit could also be inclined to be weak academically. Building those skills and removing emotional barriers may help to increase academic achievement. On the other hand, taking time away from the academic schedule to build such skills could degrade academic progress. Success may not be a result of academic achievement alone, but a combination of factors. That is, those who are academically less inclined but have well developed emotional skills could be more successful in meeting life's challenges than those with high grade point averages and lower levels of one or more emotional skills.

Theorists to include Robert Sternberg, Howard Gardner, and Daniel Goleman (Hein, 2004) challenge the traditional concepts of intelligence and how it is measured. According to them, IQ is but one element among many that determines success. Some of the factors that contribute to achievement in their view include classroom environment, affective learning, cooperative learning, student engagement, and service-learning. Obviously, some students will achieve regardless of the classroom environment or instructional strategies used. If the goal is to reach every child, however, these researchers suggest additional methods be considered. The

business world has realized for years that many other skills such as leadership, critical thinking, problem-solving, decision-making, commitment, communication skills, and stress management are desirable in employees. Developing emotional competence to fulfill future roles as productive citizens may need to be a priority regardless of its relationship to academic achievement (Kessler, 2000).

### Background of the Study

Since this study occurs within the context of the Army Junior Reserve Officers' Training Corps (JROTC), it is important to provide information to better understand the program. Established by the National Defense Act of 1916, JROTC was designed to teach high school students the value of citizenship, leadership, service to the community, personal responsibility, and a sense of accomplishment, while instilling in them self-esteem, teamwork, and self-discipline (U.S. Army JROTC, 2005, para. 1). The mission statement, *To Motivate Young People to be Better Citizens*, reflects the program focus and the goal of developing the full potential of young people. Approximately 275,000 Army JROTC cadets and over 4,000 instructors populate the program. When adding other service JROTC units, those numbers double. Many JROTC units are located in high schools in inner cities and rural areas where students are underserved. Though athletes and valedictorians are attracted to and join the program, many of the students are at promise (alternate term for at risk), and a large number are unmotivated to learn when they first join. According to annual surveys, grades and test scores, however, JROTC cadets excel academically when compared to other students in the high school (*Intentions of Graduating Seniors Report*, 2005). A majority of cadets learn how to be successful not only in improving their emotional competence, but also in academic achievement largely due to the program

structure, the experience and character of the instructors, and a state of the art curriculum. The curriculum content is rich in life skills, leadership, physical well-being, and the rights and responsibilities of citizenship. Many cadets report they perform better in their academic classes not only as a result of the motivation and inspiration they experience from their participation in JROTC, but also because course materials augment and reinforce their academic subjects.

Though academic achievement is the overwhelming goal of schools today, many prominent educators contend merely teaching required subjects may not serve that purpose (Shaeffer, 2001). Inclusion of emotional intelligence in the school's schedule is considered by countless educators to be imperative to student success (Fruehling, & Oldham, 1990). Without programs in the school to develop the whole person and to help remove emotional barriers to learning, numerous secondary school leaders argue that most students could not reach their full capacity and some may not achieve at all (Brandt, 2000). A widely held belief by many educators is that activities such as service-learning that are embedded within Army JROTC raise emotional intelligence and competence in students (*Lions-Quest*, 1995). In order to assess different learning styles, locus of control, and emotional intelligence levels, the Army JROTC program includes instruments such as the Winning Colors<sup>®</sup> learning styles assessment and the Success Profiler<sup>®</sup> skill building system. By measuring styles, locus of control, and skills, these instruments may provide a road map to success (Neilson, 2005). Exploring the relationship of emotional intelligence as measured by the Personal Skills Map<sup>®</sup>, an assessment in the Success Profiler<sup>®</sup>, with academic achievement as measured by current grade point averages adds to the discussion of the importance of emotional intelligence in education.



## Statement of the Problem

Academic achievement is a major concern in high schools today. Essentialists would argue the school day should consist mostly of core academic classes in order to increase test scores (Gutek, 2004). Strategies that improve personal skills are not, in their opinion, as important as basic skills instruction. Service-learning that improves personal and social responsibility, cooperative groups that teach students to work together, and leadership opportunities that improve problem-solving and decision-making skills may be nice, but in their view should not be in the school schedule. More progressive philosophies contend, however, that students may not achieve to the level possible without commitment and motivation. With high stakes testing and academic content as the only measuring stick, teachers and administrators will undoubtedly opt to spend time in content activities as opposed to developing seemingly unrelated skills. Sticking to testable material may not be the answer, however, if weak personal skills block academic achievement. School administrators may be mistakenly trying to increase achievement by requiring academic courses at the expense of elective programs when well chosen electives might serve to meet the objective even better. Therefore, it is important to examine what relationships exist between academic achievement levels and emotional intelligence skills.

## Purpose of the Study

The purpose of the study is to examine if relationships exist between academic achievement as measured by current grade point averages and emotional intelligence skills as measured by the Personal Skills Map<sup>®</sup> in Army JROTC. Further, the study examines whether or not those who participate in service-learning (an integral activity within JROTC), hold leadership positions, or prefer certain learning styles have higher grade point averages. The study also

explores differences in grade point average by gender. Since the JROTC program consists of students who often have difficulty with academic achievement, the findings of this study may provide a better understanding of the relationship between emotional intelligence and academic achievement of high school students.

### Rationale and Significance of the Study

Despite laws like the No Child Left Behind (NCLB) Act designed to improve the quality of education, as well as consistently increased funding for technology and other improvements in schools, academic achievement remains illusive. A tremendous gap in the literature exacerbates the problem, leaving school administrators at a loss as to how to improve achievement. Though research is progressively showing that there is much more to academic achievement than covering content, there is still little agreement as to how to solve the problem. While some administrators require advanced and remedial classes at the expense of most electives, others believe that electives keep students in school and these administrators are less inclined to remove opportunities for students to be involved in them. More and more states are taking the choice away from administrators by raising graduation requirements at the state level and establishing policies that require remedial classes at the expense of electives when students do not score minimums on state tests. Political decisions based on philosophy (e.g. Essentialism versus Pragmatism) or ideology (e.g. Conservatism versus Liberalism), appear to dictate the state and local requirements, possibly because there is so little convincing information in the literature.

Education administrators at all levels struggle not only with achievement issues in general, but also with whether or not they should customize programs for students based on such factors as gender. For instance, if teachers are sensitive to differences in skill levels by boys and

girls, classroom strategies could be adopted and implemented to close the gap. Research that explores differences in academic achievement in such categories could help administrators make wise scheduling decisions and offer choices for students based on student needs. Also, instruction could potentially be modified to adjust to low achieving students who may need increased emphasis on improving personal skills. The results of this study are important to the education community because research into the relationship between academic achievement and the scales representing personal skills adds to the body of knowledge that helps school administrators make better decisions. The very fact that emotional barriers to academic achievement as well as differences related to gender are explored helps to target interventions. Discussing learning styles, service-learning, and the positive or negative effects of leadership positions also serves to enlighten decision-makers. Since the study of emotional intelligence is relatively new, especially as it relates to high school students, leaders in the field of education and psychology such as Daniel Goleman, Gary Low, and Darwin Nelson are in agreement that further research is necessary. Additional research also benefits the JROTC program because service policy makers have more information to help them steer the direction of the curriculum content.

### Research Questions

The matter at hand is whether relationships exist between low and high levels of academic achievement and low and high levels of emotional intelligence skills in Army JROTC.

*Contributing to examining this matter, the following questions are posed:*

1. Is there a relationship between emotional intelligence and academic achievement in JROTC cadets?

2. Is academic achievement higher for girls than for boys in the JROTC program?
3. Is academic achievement higher for JROTC cadets who participate in service learning than for cadets who do not?
4. Is academic achievement higher for cadets who hold major leadership positions in JROTC than for cadets who do not?
5. Is academic achievement higher for JROTC cadets with Leader/Planner learning styles than it is for cadets with Adventurer/Relater learning styles?

#### Null Hypotheses

- Ho1. There is not a relationship between emotional intelligence skills as measured by 11 scales of the Personal Skills Map<sup>®</sup> and academic achievement in JROTC cadets as measured by current grade point averages on a scale of .5 to 4.3 during school year 2005-2006.
- Ho1a. There is no correlation between current GPA and Commitment Ethic as measured on a scale of 1 – 24.
- Ho1b. There is no correlation between current GPA and Drive Strength as measured on a scale of 1 – 48.
- Ho1c. There is no correlation between current GPA and Decision Making as measured on a scale of 1 – 24.
- Ho1d. There is no correlation between current GPA and Empathy as measured on a scale of 1 – 24.
- Ho1e. There is no correlation between current GPA and Physical Wellness as measured on a scale 1 – 40.

- Ho1f. There is no correlation between current GPA and Sales Orientation as measured on a scale of 1 – 24.
- Ho1g. There is no correlation between current GPA and Self-Esteem as measured on a scale of 1 – 92.
- Ho1h. There is no correlation between current GPA and Stress Management as measured on a scale of 1 – 50.
- Ho1i. There is no correlation between current GPA and Time Management as measured on a scale of 1 – 24.
- Ho1j. There is no correlation between current GPA and Assertion as measured on a scale of 1 – 36.
- Ho1k. There is no correlation between current GPA and Interpersonal Awareness as measured on a scale of 1 – 24.
- Ho2. The mean GPA of female JROTC cadets equals that of male JROTC cadets.
- Ho3. The mean GPA of JROTC cadets who participated in service learning equals that of JROTC cadets who did not participate in service learning.
- Ho4. The mean GPA of JROTC cadets who hold major leadership positions equals that of cadets who do not hold leadership positions.
- Ho5. The mean GPA of JROTC cadets with Leader/Planner learning styles equals that of cadets with Adventurer/Relater learning styles.

#### Definition of Terms

Academic achievement.

A measure of student achievement as determined by grade point averages and class ranking.

Achievement success.

Something that somebody has succeeded in doing, usually with effort (Encarta Dictionary, 1999).

Emotional intelligence (EQ).

A learned ability to identify, experience, understand and express human emotions in healthy and productive ways (Schmitz, 2005).

Emotional intelligence skills.

Primary factors of motivation (Schmitz, 2005). Emotional skills are also used in communication, leadership, self management, and self-understanding (Nelson & Low, 1999).

Ethnic.

Relating to a group or groups in society with distinctive cultural traits. Ethnic affiliation or distinctiveness (Encarta Dictionary, 1999).

Gender.

The sex of a person or organism (Encarta Dictionary, 1999).

JROTC Leadership Positions.

Battalion and Company Commanders and as well as upper level staff positions within a JROTC unit. Cadets must qualify for these positions based on their accomplishments.

Leadership.

The ability to guide, direct, or influence people (Encarta Dictionary, 1999).

Personal Skills Map<sup>®</sup>. Created and developed in 1976 by two psychologists, Dr. Darwin B.

Nelson and Dr. Gary R. Low. The skills map is a self-assessment instrument used to identify key dimensions of personal skills and to place the results along a continuum with three major categories – skills to develop, skills to strengthen, and skills to enhance (Schmitz, 2005).

Learning Styles Scores.

Behavioral preference indicators as illustrated by the Winning Colors<sup>®</sup> Discover Form.

Success Profiler<sup>®</sup>.

A systematic assessment which includes the Personal Skills Map<sup>®</sup> and other assessments as well as a skill-building program designed to increase emotional intelligence competencies.

Service-learning,

Service-learning is the potent combination of meaningful service to the community, academically rigorous classroom education and deliberate, structured reflection so that students connect what they are learning to the service performed.

Winning Colors<sup>®</sup>.

A learning styles and behavior identification program that helps students understand each others' differences and provides tools to communicate, resolve conflicts, and develop positive relationships. It is self-reporting and uses colors (brown – decision-maker, green – thinker/planner, blue – relater/team builder, and red – adventurer) to help students easily identify and remember their preferred styles. Often, red/blue styles indicate an external locus of control while brown/green styles indicate an internal locus of control.

Personal skills and change orientation as defined by Nelson and Low in the Conover Company Research Manual (Schmitz, 2001):

1. Commitment Ethic (CE).

The ability to successfully complete projects and job assignments.

2. Drive Strength/Motivation (DS).

The ability to effectively direct individual energy, motivation, and achievement.

3. Decision Making (DM).

The ability to initiate, formulate, and implement effective problem-solving procedures.

4. Empathy (E).

The ability to accurately understand and accept another person's thoughts, feelings, and behaviors.

5. Interpersonal Assertion (IA).

A personal communication skill indicated by the direct, honest, and appropriate expression of thoughts, feelings, and behavior. It is a balance between:

a. Interpersonal Aggression (IAg).

A personal communication style which violates, overpowers, dominates, or discredits the other person's rights, thoughts, feelings, or behaviors and,

b. Interpersonal Deference (ID).

A personal communication style which is indirect, self-inhibiting, self-denying, and ineffectual for the accurate expression of thoughts, feelings, and behaviors.

6. Physical Wellness (PW) or Growth Motivation.

The ability to take care of one's physical self and avoid self-destructive behaviors.

7. Sales Orientation/Leadership (SO).

The ability to positively impact and influence others.



8. Self-Esteem (SE).

The ability to accurately evaluate self. A self-perceived level of personal worth.

9. Stress Management (SM).

The ability to positively manage stress and anxiety.

10. Time Management (TM).

The ability to use time effectively for the accomplishment of individual and career goals.

11. Interpersonal Awareness (IAw).

The ability to judge appropriate social and physical distance in verbal and non-verbal interactions with others.

12. Change Orientation (CO).

The degree of motivation and readiness for change in specific skill areas (this scale does not relate to a personal skill – it relates only to the degree the person wants to improve his or her skills).

#### Assumptions of the Study

1. Data provided was accurate.
2. Emotional intelligence is a key to academic success (Nelson & Low, 2003).
3. Emotional intelligence is linked to successful leadership (Nelson & Low, 2003).
4. Students who participate in service learning have increased Emotional Intelligence skills (*Lions-Quest, 1995*).
5. Students with certain learning styles have higher emotional skill levels (Neilson, 2005).

## Limitations of the Study

1. The Personal Skills Map<sup>®</sup> is a self-reporting instrument; therefore, it does not measure actual skill levels but perceptions of those skill levels.
2. In spite of numerous studies, social and emotional intelligence have not been integrated into a cohesive theoretical framework, so at most EQ is an emerging theory; therefore, conceptual assumptions must be relied upon (Lopes, Salovey, & Straus 2002). Though many researchers propose a model for a framework, lack of general agreement continues to defy consistent factors that make up Emotional intelligence.
3. Little agreement exists regarding the skills or competencies that make up emotional intelligence. According to Caruso (2004), three major approaches dominate but differ: Reuven Bar-On (non-intellective aspects of performance), Daniel Goleman (acquired skills and competencies), and Jack Mayer-Peter Salovey (interaction of emotions and thinking).
4. Data are limited to what was available in the Skills Map Report.

## Conceptual Framework

### *EQ Theory*

Emotional Intelligence (EQ) is the emerging theory explored. Controversy surrounds such details as whether EQ can be learned and taught and how important it is to students' success in school and in life. EQ theory belongs to the family of Pragmatism and is diametrically opposed to those who are grounded in Essentialism. Though Essentialists still hold to the philosophy that the reason students may not achieve is a result of deviating from the basics, today intelligence and success are not necessarily viewed the same way they were in the past. Those of the pragmatic bent contend that all facets of the students must be considered; not only

their reasoning capacities, but also their self-awareness, emotions, and interpersonal skills.

During the last two decades, Multiple Intelligences theory was introduced by Howard Gardner in 1983 and the Emotional Intelligence theory by Bar-On in 1988, Mayer and Salovey in 1990, and Goleman in 1995. According to this emerging theory, Intelligence Quotient (IQ) alone is no longer the only measure for success.

Emotional Intelligence theory dovetails with the Idealist viewpoint that education is bringing out the best in students, not just academic achievement. According to the Idealist point of view, programs that improve EQ competencies are needed to build personal skills and improve academics. Paradoxically, students who excel academically are often shortchanged by an educational system that, through its infatuation with academics, has not provided the subjects many of these students need to become happy, productive citizens. In other words, according to this theory learning the skills necessary to function effectively in life are as important, if not more important, as achieving academically. In addition, EQ enthusiasts believe those who achieve academically, yet have not developed their emotional intelligence, are not likely able to achieve their full capacity. Most students will not learn well if they are not engaged and if their emotions, learning styles, personality, and motivation are not considered. Teachers are responsible to provide an environment conducive to learning and the best instruction possible. On a continuum, process is at least as important as content, so schools should address the whole child, and education should expand beyond the school walls into the community. The stated goals of schools today should not only be to help students achieve academically, but also to understand and manage their emotions and become productive, well-adjusted citizens. EQ theory

supports the statement that though academic achievement is often the stated goal, it is not attained by merely teaching required subjects.

### *EQ Defined*

Definitions of EQ range along a spectrum of everything from learning styles to abilities. The term learning styles is used often but is not always clear. Several groupings make up learning styles theory. Learning styles can be categorized by the senses – auditory, visual, or kinesthetic; by instructional and environmental preference models that look at how sound, light, structure, and learning relationships affect perceptions; by how students process information such as Gardner’s multiple intelligences; by how the content is organized such as inductive or deductive/analytic or global methods; by using personality models such as the Myers-Briggs Type Inventory, Kolb’s Learning Styles Model, or Winning Color cards; and by social interaction models that address gender and social context. Styles describe a person’s typical mode of thinking, remembering, or problem solving. Learning styles differ from abilities in that having more of an ability is considered to be beneficial, whereas there is no advantage to having more or less of a style. Style is often described as a personality dimension that influences attitudes, values, and social interaction (Palloff & Pratt, 2003). While facets of EQ can be associated with learning styles, EQ is most appropriately placed at the learned ability end of the spectrum in that understanding and expressing human emotions in healthy and productive ways is more of a learned ability than it is a style. According to Schmitz (1999) on his web site,

Emotional intelligence (EQ) skills are primary factors of motivation and the gateway to lifelong learning and high levels of achievement. Research world wide indicates that social/emotional skills are essential to all learning. We all know individuals with high IQ

who have not met with success, while others of modest IQ have succeeded far beyond anyone's expectations...EQ can be developed, strengthened and enhanced throughout one's lifetime. When EQ is improved, it can have immediate benefits to one's health, one's education, one's relationships and one's work.

### *JROTC and EQ*

JROTC is a program that builds emotional intelligence. Students who join JROTC are often at risk (or positively stated, at promise) and are looking for a place to belong. Other reasons they join include: they realize the need for the structure it provides; their parents made them join; principals and guidance counselors offered it to them; or they thought it might be fun. Rarely do students join because they believe it will help them academically. Many of the JROTC units report that students in the program are improving personal skills and that some had such an expectation when they joined. Some instructors contend that the service-learning and the leadership training that takes place within the program contribute to this improvement. Research indicates programs such as service-learning improve personal skills as well as academics (Eyler & Giles, 1999). Researching the relationship of emotional intelligence and academic achievement in JROTC could establish a foundation to further explore aspects of the program such as the effect of leadership, service-learning and measuring personal skills. Looking at emotional intelligence as it relates to different categories of cadets and locations could help educational leaders decide whether or not to customize learning strategies to achieve optimal outcomes. Exploring the relationships of different personal skills to academic achievement could help determine which emotional barriers may need to be removed before grades can improve. Questions as to whether interventions or remedial classes are the best way to improve grades

could be answered. A number of studies (Goleman, 1995; Ellis, 2004; Stottlemyer, 2002; Wolfe, 1998) indicate a reciprocal relationship between emotional intelligence and academic achievement. Instruments such as the Personal Skills Map<sup>®</sup> used in Army JROTC that measure emotional skills could be used to augment this research and become more widely used to help focus interventions.

## CHAPTER 2. LITERATURE REVIEW

### Introduction

Academic achievement is the ultimate goal of schools today. Most would agree that whatever takes place in the school needs to contribute to that goal. Conservatives want schools to concentrate mainly on core academic subjects and they view strict discipline and rigorous testing as the way to ensure that students succeed. Conservatives often discount the concern over a student's self-esteem as an excuse to fail and regard classes that do not concentrate on the basics as a waste of time. Arguments that profess motivation to learn, as well as varied emotional factors, should be considered in reaching the goal of student achievement are not convincing enough to sway these opinions. Conservatives often refuse to accept that class after class of the same subject until it is mastered is not the solution; they would not agree with the contention that "You can't teach them 'til you reach them" (J. Rice, personal communication, January 30, 2005). In their view, students who achieve academically may not be happy or productive, but it is not a school matter. Liberals generally take a more pragmatic approach and charge schools with the wider responsibility of developing the whole person. Though this view sounds like it embraces a more reasonable slant, it is often bogged down in permissiveness, concern with self-esteem, and lack of direction at the expense of achievement. Disdainful of these liberal beliefs, Diane Ravitch (2000) contends that social goals and the belief that knowledge would take care of itself, as opposed to teaching and learning, has predominated in education over the years.

Regardless of the philosophical or ideological outlook, the goal is for students to graduate with a mastery of specified academic standards which prepare them to enter the workforce or pursue further studies. Striking the appropriate balance is really the issue: teaching emotional skills versus facts and figures; measuring student progress in gaining the emotional skills and motivation to learn and achieve versus measuring academic progress alone. One of the best ways to end the philosophical arguments is through research. In the last ten years the study of the brain and how students learn has revealed a wealth of solid strategies that will help students learn. According to Marzano (2003), one of the eminent educational researchers of this decade, not only are varied instructional strategies important, but so are state standards, a viable and coordinated curriculum, and effective feedback mechanisms. Clearly, as legitimate research surfaces, middle ground will emerge resulting in better grades and test scores as well as more productive, contented students. Seeking out the body of research that examines emotional factors that affect academic achievement in high school students is the goal of this literature review. It surveys the body of research that supports the development of emotional intelligence and how it possibly relates to academic achievement. The review considers whether or not it is important to build emotional intelligence into a school's curriculum and to measure students' success in improving EQ. Several measurements of emotional intelligence are reviewed and evaluated. Many educational leaders are discussing the relationship leadership, service-learning, and learning styles have to emotional intelligence as well as what effect they may have on academic achievement; therefore, these factors are also explored in this literature review.



## Emotional Intelligence as it relates to Academic Achievement

According to Caine & Caine (1997), the brain links emotion, perception, and memory. Any understanding of a subject, skill, or domain, they purport, integrates thoughts and feelings. If their contention is accurate, students need to relate emotionally to the specifics of the curriculum. This concept involves more than helping students to feel good so they can study.

Several instruments measure elements of emotional intelligence. One of those measurements is Mount and Barrick's (1991) Big Five which establishes a taxonomy of personality traits: Extraversion, Emotional Stability, Agreeableness, Conscientiousness, and Openness to Experience. According to and cited in Ridgell (2004, p. 607), research during the past decade has found several Big Five predictors of academic success: Agreeableness and Conscientiousness (Fritzche, McIntire, & Yost, 2002); Conscientiousness (Busato, Prins, Elshout, & Hamaker, 2000; Musgrave-Marquart, Bromley, & Dalley, 1997; Paunonen & Ashton, 2001), and Openness (Paunonen & Ashton, 2001). In addition, Paunonen (2003) found a relationship across the Big Five assessments to academic achievement. Ridgell (2004) confirmed these previous findings of meaningful validities for work drive in relation to academic performance.

The Mayer-Salovey Emotional Intelligence Test (MSCEIT) measures four areas: perception, facilitation of thought, understanding, and management (Mayer & Cobb, 2003). The authors conclude that emotional intelligence should be a part of a school's curriculum, but administrators would be wise to ensure the model chosen is measurable and defensible. Mayer and Cobb purport that an ability-based model that emphasizes knowledge and reasoning would be preferable. The test should be made up of questions that measure reasoning ability regarding

emotional intelligence information as opposed to mixed models of self-reporting instruments that are more popularly oriented.

An instrument that correlates not only with the Big Five and Salovey and Mayer's four branch ability model, but also with several other models to include those belonging to Goleman, Gardner, and Sternberg, is the Personal Skills Map<sup>®</sup> (Nelson & Low, 1999). According to Nelson and Low (1999, p. 21), over 25 years of research and study "have documented the importance and value of emotional and personal skills in high achievement, retention, career excellence, and responsive personal leadership." Stottlemeyer (2002) concludes in her dissertation using an instrument similar to the Personal Skills Map<sup>®</sup> (the Exploring & Developing Emotional Intelligence Skills<sup>®</sup> Instrument or EDEIS), that selected emotional intelligence skills were predictive of academic achievement in three schools in South Texas. She recommends using instructional practices such as cooperative and student centered learning that likely contributes to the development of emotional skills. She contends these practices should include activities that help develop social and emotional skills that are applicable outside the classroom. Stottlemeyer also concludes that much more research is needed to investigate the relationship of emotional intelligence and academic achievement.

Though several views of emotional intelligence exist; and arguments over whether the focus should be traits, competencies, or abilities; a general consensus of the literature is that some relationship with achievement and emotional intelligence exists. Further research is needed to establish that correlation in different settings.

## The Importance of EQ to Factors Other Than Academic Achievement

According to Sternberg, Okagaki, and Jackson (1990) grade point average is not the only measure of intelligence. They assert that people with practical intelligence – figuring out what your teacher wants or understanding that people who know how to repair cars – are just as intelligent as academicians. Emotional intelligence means knowing how to question and find solutions, how to be financially successful, how to sustain oneself, or how to be a good parent or successful family member (Hein, 1996). The product of the education system, the graduate, is the raw material for businesses that prefer employees who are self-disciplined, able to manage their time, make decisions, solve problems, and handle themselves. According to Daniel Goleman (1998) in business, the high performing individual with the low grade point average matters more in excellence than the intelligence quotient. Clearly the statements above show practical and emotional intelligence are factors in success. The question still remains, however, if there is a relationship between these types of intelligence and students' grades.

Regardless of the many testimonials of the importance of emotional intelligence, there are those who believe it is a fad much as the belief during the 1980's that raising self-esteem would naturally raise academic achievement. Whether or not emotional intelligence is a fad or linked to achievement at all, the question as to what extent it should be considered in the school's curriculum remains. There are many who say any departure from the basics should be approached with caution. These essentialists are the same critics who would dismiss bilingual education, multicultural curricula, and cooperative learning as illegitimate (Kohn, 1994). Elated when studies did not substantiate the relationship between self-esteem and academic achievement, these critics still use that research to substantiate that no intrusion to basic

academic studies should exist. Others contend that the research does not mean self-esteem is not important and that it does have merit, regardless of lack of correlation to academic achievement in the research to date.

Though the link of emotional intelligence to academic achievement is substantiated in various studies, there is some argument over emotional intelligence being popularized to the point it is a fad, much as the concern over self-esteem mentioned above. This argument questions what a valid measure of emotional intelligence is as well. To insert anything into a school's curriculum without a researched plan to ensure that it helps students relate to their academic studies (rather than just feel good so they would learn) is a mistake. This statement is also true of emotional intelligence. Broad statements hailing its superiority over IQ without solid research hurt its credibility. Regardless of the disagreements over how important emotional intelligence is and how it should be measured, many question whether research is substantial enough to justify its incorporation into the schools' curricula. Once the relationship between EQ and IQ becomes more clear and instruments that measure it are more widely accepted, studies can begin to concentrate on how emotional intelligence is developed and measured and how it should be balanced with academics.

#### *Measurement of EQ*

The Personal Skills Map<sup>®</sup> used in this study is a standardized instrument that measures motivation, interpersonal assertion, time management, leadership, stress management, physical wellness, self-esteem, empathy, decision-making, commitment, intrapersonal awareness, and willingness to change. The Personal Skills Map<sup>®</sup> Research Manual (2001) spells out the reliability and validity of the instrument. The skills map relies on self-report and includes some

questions that are ability-based. Also, intrinsic in the instrument is what Carl Rogers (1980) refers to as the perceived self (not necessarily the real self).

### *Service-learning and EQ*

Several sources indicate there is a connection between service-learning and emotional intelligence. To elaborate on this connection, it is important to describe what service-learning is. Many administrators, educators, and parents confuse service-learning with community service. Though service-learning builds on the concept of community service, it is far more structured and is based on combining the academics learned in the classroom with service in the community. Service-learning provides a laboratory for citizenship in action and allows every student to be an asset to his or her school and community. Educators who incorporate service-learning in their classrooms provide testimonials of students "...becoming more altruistic and caring, growing more concerned about their community and community issues, and learning more in specific content areas such as social studies or mathematics, or specific subject matters such as environment or the elderly" (Billig, 2005, para 2). In a recent study by The Corporation for National and Community Service (2005), students involved in community service that did not meet the quality elements of service-learning were three times less likely to believe they could make a difference in solving problems in their community. The results of this study reveal the importance of ensuring activities are measured by checklists and rubrics to guarantee they include the quality elements necessary for a valid project. As more research is completed on service-learning, relationships between high caliber service projects and high levels of emotional intelligence are emerging. According to Linda Fredericks (2003, p. 14) in summarizing several

statewide research studies:

Schools are not only charged with producing knowledgeable students, but with helping young people to address the many opportunities and challenges of life. Not only our communities but our very democracy depends upon students who possess a broad range of academic, social and emotional skills – upon youth who are competent workers, committed citizens, and caring friends and family members. Far from distracting from the essential goals of education, social and emotional learning and service-learning are both powerful means of achieving those goals. Social Emotional Learning (SEL) and service-learning, often regarded as separate entities, can now be understood as two complementary and connected means for promoting positive youth development. SEL is instrumental in cultivating life skills that students need to establish productive relationships, make sound decisions, communicate effectively and meet needs in healthy ways. Service-learning helps students to apply and solidify those skills while performing needed community service. By honoring students’ needs for social and emotional development – which include young-people’s need to contribute to their world in a meaningful and honored way – school leaders can do far more than enhance academic achievement. They can ensure that young people become caring, competent and contributing members of society.

The Army JROTC program has made a commitment to America’s Promise to ingrain service-learning into its curriculum (Rice & Banton, 2001). One example of this commitment and an excellent illustration of an effective service-learning project took place in Carroll High

School, Ozark, Alabama. Cadets worked with the American Cancer Society to use what they learned from their drug prevention curriculum lessons to educate elementary school students on the hazards of tobacco use. The advocacy of the JROTC cadets was adopted by the elementary students, and as a result, some of the elementary school parents reported that because of their young child's efforts, they had stopped smoking. Cadet Lawrence Leyderman feels that "JROTC and community service build one's character...[and provide] a sense of direction in life" (Rice & Banton, p. 6). Schools are actively seeking ways to connect students with real life situations while fostering values and behaviors that are the goals for character education. A study by the National Center for Education Statistics (NCES) shows that 83% of U.S. high schools offered community service opportunities in 1999. This trend continues to be upwardly mobile. Community service and service-learning are integral parts of all JROTC units, and Army JROTC cadets participate in service-learning in record numbers. Cadet Anna Cook notes that "Junior ROTC and community service together are a powerful combination for success" (p. 6) The rippling effect of the synergy created as a result of this combination can be felt far beyond the program's borders.

### *Leadership and EQ*

According to Goleman (1995, p. 149) leadership is "...not domination, but the art of persuading people to work toward a common goal." Jeanne Segal (1997) describes a successful boss as someone who can read people and respond to them with empathy. Several experts agree with Goleman and Segal that good leaders have higher levels of many emotional intelligence skills. In the Army JROTC program, cadet leaders are chosen because of their accomplishments and their potential to lead their peers. They have the opportunity to practice good leadership

skills under the mentorship and guidance of experienced instructors. They may have more highly developed emotional skills than those students who are not in leadership positions.

*Learning Styles as Measured by the Winning Colors<sup>®</sup> Discover Form*

One of the research questions asks if there is a difference between levels of emotional intelligence and academic achievement when categorized by learning styles scores as determined by the Winning Colors<sup>®</sup> Discover Form. This form is used in the JROTC program to explore different aspects of preferred learning styles and behaviors. In a search of the literature, studies using similar learning styles instruments were found. A discussion of two of them follows:

A study by Dunn, Honigsfeld, and Martel (2001) used Phase 1 (Assessment Inventories and Strategies) of the Dunn and Dunn Learning Style Model to study the similarities and differences of instructor and cadet learning styles in Army JROTC. The researchers found that JROTC students' learning-style preferences differed from those of the general population and they also differed by gender and ethnicity. At the same time, they found that JROTC instructors' learning-style preferences differed from those of the general population and by gender and ethnicity as well. The study used a random sample which consisted of 1,737 cadets out of 231,000 and 233 instructors out of 3,400. Two instruments were employed. One, the Dunn, Dunn, and Price Learning Styles Inventory (1997), was used to identify the cadets' learning styles. A second instrument, the Productivity Environmental Preference Survey (Dunn, Dunn, & Price, 1979, 1980, 1990, 1996), was used to determine instructor learning styles. Valuable conclusions were drawn from the study, such as cadets requiring more active learning strategies and instructors needing to expand their teaching repertoires.



A survey of research on learning styles conducted by Rita Dunn (1989) is also noteworthy. It provides an arsenal of studies that support the correlation of learning styles with student achievement and other influences on learning (birth order, cognitive development, maturation, hemisphericity, field dependence, global/analytical processing, temperament, and self-concept). All types of audiences from elementary to disabled to gifted were also studied and found to have correlational connections. The conclusion from these studies is that learning styles need to be identified and instruction needs to be responsive to them. Winning Colors<sup>®</sup> provides another facet to the traditional learning style inventories and may assist instructors to be responsive to temperaments, differences in locus of control, and behaviors as well.

Until Julian Rotter's Social Learning Theory was introduced in the 1950's, little is found in the literature linking personality and learning styles to academic achievement. According to Mearns (2005), Rotter believed that personality is made up of a set of potentials for responding to situations and is not set in stone. People with a strong internal locus of control believe they are responsible for their own success or failure, whereas those with an external locus of control believe their success or failure is largely due to outside forces. Rotter cautioned that locus of control is not typology and can change based on circumstance and awareness. Several studies have shown that there is a significant relationship between internal locus of control and increased academic achievement (Thompson, 2006). Efforts to teach responsibility and to use student-centered discovery learning could help to develop a stronger internal locus of control. In Winning Colors<sup>®</sup>, this would entail creating a better balance between Red/Blue (external) behaviors and Brown/Green (internal) behaviors (S. Neilson, personal communication, February 16, 2005).

Several other studies such as Gary Low's (1999) work on exploring a correlation between emotional intelligence and retention, Bertha Richardson's correlation of personality types and leadership in character education programs, Sally Winterton's use of the Delphi Technique to establish the importance of learning styles for all students, and William McPherson's analysis of personality types and instructional methods help frame the importance of instruments such as Winning Colors<sup>®</sup> and how they can positively affect desired outcomes. The articles and web sites noted are examples of research that validates the importance of learning styles to achievement. Instructors can easily identify learning, personality, and behavioral styles in their cadets while they gain insight into their own styles as demonstrated by the variety of approaches. Attention to learning styles may increase communication and teamwork and, in turn, better leadership – three very important aspects of the JROTC program.

#### *JROTC and EQ*

In a recent evaluation that led to program accreditation by the Southern Association of Colleges and Schools (SACS), the quality assurance review team noted, "...the program serves to reinforce the competencies taught in the other academic subjects in which students are enrolled" (Flatt, Baker & Eades, 2005). Cadets share their academic successes with others in their high schools, middle and elementary schools, and their communities through community service and service-learning.

Tutoring and mentoring programs in academic subjects, financial education, and leadership abound. On July 12, 2000, U.S. Army Cadet Command formed a partnership with Junior Achievement (JA), Inc. to formalize opportunities for cadets to work with younger students in classrooms around the country. In Kansas City, Missouri, 358 JROTC cadets received

JA instruction and served as instructors and mentors for 3,065 students in eight elementary schools and four middle schools. Paseo High School received the prestigious ImpACT Award by the Greater Kansas City Area JA organization. Major Stevie Brooks, a JROTC instructor, was named the JA Teacher of the Year. The JROTC/JA partnership is growing throughout the country and in the Department of Defense schools in Europe.

The presence of a JROTC program provides many tangible and intangible benefits to the school and the community. Administrators, counselors, and teachers rely on instructors to accept leadership responsibilities, set standards, and maintain stability. JROTC instructors often serve as the last line of support for some students. They often mentor other teachers by sharing curriculum strategies and methodologies. Instructors promote a disciplined environment, provide administrative, activity, and academic support, and increase esprit de corps. Both instructors and cadets are resources because of their knowledge of conflict resolution, emergency action responses, leadership, teamwork, and emotional intelligence. Together they problem-solve issues within the school and assist with school-wide programs and initiatives. They provide an overall blanket of visible leadership and exemplify pride, patriotism, high standards, and increased expectations. Principals in schools across the nation are quoted as saying their entire school changed when they initiated their JROTC units. For example, assemblies opening with a JROTC color guard result in silence that is immediate and respectful. It is also widely reported that poor discipline rates are down throughout the schools on uniform day. Outside school hours, JROTC color guards augment sporting events, drill teams provide performances, entire units march in community parades, plan and execute veterans activities, and actively support drives to collect toys, meals, and funds for those affected by disasters. A JROTC honor guard from Carver and

Lanier high schools in Montgomery, Alabama, recently ushered Rosa Park's casket in the funeral procession (Chappell & Ballard, 2005). JROTC units undoubtedly lead the way in support of academics and leadership in the schools and communities where they exist.

JROTC and similar programs can transform America's high schools if used in support of academic achievement instead of in competition with it. This study and more like it are needed to demonstrate the relationship of emotional intelligence that is built by these types of programs to academic achievement.

### *Conclusion*

Building emotional intelligence into a school's curriculum and measuring students' success in improving it is important, according to studies found in this literature review. The relationship of emotional intelligence to leadership, quality service-learning, and the importance of learning styles were also explored. Similar studies and publications have indicated correlations between EQ and academic achievement (Ellis, 2004, and Stottlemeyer, 2002) as well as service-learning (Billig, 2005) and leadership (Goleman, 1995). Research has been limited in scope and diversity though. Samples from several different types of schools and locations across the United States were reviewed. In particular, an examination of the JROTC program revealed that it not only has a positive effect on cadets, but also has a powerful impact on the schools and the communities it serves. JROTC provides opportunities for moral action through organizational leadership, community service, and service-learning.

## CHAPTER 3. METHODOLOGY

To examine if relationships exist between academic achievement and emotional intelligence skills in Army JROTC is the purpose of this study. Emotional intelligence skills are determined by the 244 item self-reporting assessment, the Personal Skills Map<sup>®</sup>. Academic achievement data are determined through current grade point averages. The method for comparing emotional competence and academic achievement is correlational. Other factors such as gender, whether or not students participated in service-learning and held major leadership positions (integral components of Army JROTC), or their different learning styles are considered as well.

### Research Questions

The matter at hand is whether relationships exist between low and high levels of academic achievement and low and high levels of emotional intelligence skills in Army JROTC.

*Contributing to examining this matter, the following questions are posed:*

1. Is there a relationship between emotional intelligence and academic achievement in JROTC cadets?
2. Is academic achievement higher for girls than for boys in the JROTC program?
3. Is academic achievement higher for JROTC cadets who participate in service learning than for cadets who do not?

4. Is academic achievement higher for cadets who hold major leadership positions in JROTC than for cadets who do not?
5. Is academic achievement higher for JROTC cadets with Leader/Planner learning styles than it is for cadets with Adventurer/Relater learning styles?

#### Null Hypotheses

- Ho1. There is not a relationship between emotional intelligence skills as measured by 11 scales of the Personal Skills Map<sup>®</sup> and academic achievement in JROTC cadets as measured by current grade point averages on a scale of .5 to 4.3 during school year 2005-2006.
- Ho1a. There is no correlation between current GPA and Commitment Ethic as measured on a scale of 1 – 24.
- Ho1b. There is no correlation between current GPA and Drive Strength as measured on a scale of 1 – 48.
- Ho1c. There is no correlation between current GPA and Decision Making as measured on a scale of 1 – 24.
- Ho1d. There is no correlation between current GPA and Empathy as measured on a scale of 1 – 24.
- Ho1e. There is no correlation between current GPA and Physical Wellness as measured on a scale 1 – 40.
- Ho1f. There is no correlation between current GPA and Sales Orientation as measured on a scale of 1 – 24.
- Ho1g. There is no correlation between current GPA and Self-Esteem as measured on a scale of 1 – 92.

- Ho1h. There is no correlation between current GPA and Stress Management as measured on a scale of 1 – 50.
- Ho1i. There is no correlation between current GPA and Time Management as measured on a scale of 1 – 24.
- Ho1j. There is no correlation between current GPA and Assertion as measured on as scale of 1 – 36.
- Ho1k. There is no correlation between current GPA and Interpersonal Awareness as measured on a scale of 1 – 24.
- Ho2. The mean GPA of female JROTC cadets equals that of male JROTC cadets.
- Ho3. The mean GPA of JROTC cadets who participated in service learning equals that of JROTC cadets who did not participate in service learning.
- Ho4. The mean GPA of JROTC cadets who hold major leadership positions equals that of cadets who do not hold leadership positions.
- Ho5. The mean GPA of JROTC cadets with Leader/Planner learning styles equals that of cadets with Adventurer/Relater learning styles.

#### Researcher's Philosophy

The personal and foundational philosophy that supports the problem and research question of this study is derived from the assumptions that follow. Ontologically, an objective view was taken. As such, the method chosen to accomplish the goal of exploring the relationships between emotional intelligence skills and academic achievement in Army JROTC cadets is a quantitative design in the form of a correlational study. Correlational outcomes allow decision makers to examine the data, which is straightforward, and make their own choices. Epistemologically, the researcher was detached and used second source data which was analyzed

without interaction. Axiologically, in order for this data to be taken seriously, it is value free and objective as opposed to subjective. The researcher has remained distant and controlled for bias to the extent possible, relying on impartial data collected by others through instruments and records. Methodologically, several questions are presented and remain static throughout the study. Information is intended to better understand the relationships (or lack of relationships) the data implies. The instrument used, the Personal Skills Map<sup>®</sup>, has been tested for reliability and validity with adults, college, and high school students. A quantitative approach is taken not only due to the personal traditional philosophy of the researcher, but also because the audience for the research requires impartial data that can assist in making decisions and in justifying them as well (Creswell, 1994).

### Theoretical Framework

A non-experimental correlational model provides the framework for this study. The question, to examine if relationships exist between low and high levels of academic achievement and low and high levels of emotional intelligence skills in Army JROTC, can best be answered, at least initially, in the context of the JROTC program. Naturally occurring aspects of the program such as cadets who do or do not participate in service learning or who do or do not serve in leadership positions can be explored. Differences as to emotional intelligence levels in boys and girls can be examined. And learning styles, so important in classroom management and learning, can be considered as well. Relationships among these variables could help determine the direction of further studies that would explore cause and effect relationships and contribute to decisions regarding the management of the program and emphasis of the curriculum. (Gall, Gall & Borg, 2004). Current research indicates that EQ can be learned and taught and that Intelligence Quotient (IQ) alone may not be the only measure for success. Correlations between



the predictor variables (emotional intelligence scales) and the criterion variable (academic achievement) could support previous studies, while insignificant correlations could indicate a different direction should be taken. Categories within these variables (gender, learning styles, participation in service learning, and whether or not leadership positions were held) were chosen to determine if grade point average is different among these groups.

Using Pearson  $r$ , the study analyzes the relationship between personal skills and academic achievement within the JROTC program. The 11 skills (as determined by the Personal Skills Map<sup>®</sup>) are the predictor variables. Criterion variables are current grade point averages. The study does indicate that students with higher levels of emotional intelligence, which is determined by the skill levels, generally do have better grades. Likewise, students who have participated in service-learning and/or leadership positions, and have thinking/planning or deciding/leading learning styles generally have higher grade point averages than those who did not. According to emerging Emotional Intelligence Theory and specifically emotional intelligence as a theory of performance, correlations between high levels of emotional intelligence and academic achievement can reasonably be expected (Cherniss & Goleman, 2004). The premise of emotional intelligence as a theory of performance basically states there is a relationship between work performance and specific emotional intelligence skills. According to Goleman (1998), emotional competencies can be learned, and several studies have indicated there is a relationship between high levels of these competencies and work performance. Social awareness, which encompasses empathy and service organization, could logically be strengthened through service learning. Since effective leadership requires emotional competence and balance in several areas, those selected for positions within the JROTC program would plausibly reflect higher work (academic) performance (Cherniss & Goleman, 2004).

The goal of this study is to explore, using a report of JROTC data from many different locations, a possible correlation between high levels of emotional intelligence as measured by the Personal Skills Map<sup>®</sup> and high levels of academic achievement as measured by grade point averages. Gender, participation in service-learning, holding leadership positions, and learning styles are also considered.

Research questions posed for this study are best addressed with a non-experimental design. Control groups are not possible within the context of the JROTC program and would not help to demonstrate the relationships required. Since the field of emotional intelligence is young, much work remains to establish a pattern of relationships, especially with academic achievement in different venues. According to Thompson, Diamond, Snyder and Snyder (2005), not all educational interventions are suited to experiments. They contend that correlational evidence can tentatively inform practice when causal modeling or exclusion methods are employed.

“Correlational evidence is most informative when exemplary research practices are followed with regard to (a) measurement, (b) quantifying effects, (c) avoidance of common macro-analytic errors, and (d) use of confidence intervals to portray the consistency of possible effects and the precisions of the effect estimates” (Thompson et al., p. 190).

#### Research Design Strategy

This is a correlational study with the primary purpose of examining the relationships between low and high levels of academic achievement and high and low levels of academic achievement as measured by grade point average (criterion variable) and levels of various emotional skills as measured by an instrument coined the Personal Skills Map<sup>®</sup> (predictor variables). Categories explored are gender, involvement in service learning versus no involvement, and participation in leadership versus non-participation. Learning styles are

considered as well. The purpose of the study is explanatory and predictive. Emotional intelligence theory, which contends intelligences other than cognitive exist and can have an effect on academic achievement, is used as the basis of the study.

## Instrumentation

### *Description of the Personal Skills Map<sup>®</sup> Instrument*

#### *Self-Esteem (Se)*

Self-concept, self-image: Scores on this scale reflect positive views of thinking, feeling, and behaving. A high score indicates a healthy personality with a positive sense of self-worth. A low score indicates a negative evaluation of self and dissatisfaction with ways of thinking and feeling.

#### *Interpersonal Assertion (IA)*

Scores on this scale indicate current assessment of how effectively one employs direct, honest, and appropriate expression of thoughts, feelings, and behaviors in dealings with others. A high score indicates possession of assertive communication skills and the ability to be direct and honest in communicating with others without violating rights as a person or the rights of others. A low score indicates a lack of assertive skills and aggression or a tendency toward indirect, self-inhibiting, and self-defeating communication styles. Low assertive skills may lead to giving in to others constantly (deference).

*Interpersonal Aggression (IAg)*. This scale measures the degree to which an individual employs a personal communication style that violates, overpowers, dominates, or discredits the other person's rights, thoughts, feelings, or behaviors. A high score on this scale may indicate insensitivity toward others and low self-acceptance

expressed by hostile and attacking behaviors in interpersonal exchanges. High Interpersonal Aggression is related to the personality characteristics of rebelliousness, resentment, and oversensitive response to real or imagined affronts.

*Interpersonal Deference (ID)*. This scale measures the degree to which an individual employs a personal communication style that is indirect, self-inhibiting, self-denying, and ineffectual for the accurate expression of thoughts, feelings, and behaviors. A high score on this scale may indicate a lack of skill in interpersonal dealings and difficulty in standing up to others. High Interpersonal Deference is related to the personality characteristics of apprehensiveness, shyness, and oversensitivity to threat or conflict.

#### *Empathy (E)*

Sensitivity: The empathy score is an indication of how one views his or her current skill and ability to sense, understand, and accept another person's thoughts, feelings, and behaviors. Empathy is a primary characteristic of skilled communicators. Persons with strong empathy tend to be sociable, outgoing people. A high score on Empathy indicates skill in understanding and sensing what others are saying, feeling, and doing. A low score may indicate a lack of awareness of how others are trying to communicate their thoughts or emotions.

#### *Drive Strength/Motivation (DS)*

Motivation, Goal Setting: Scores on this scale are an indication of how one views his or her ability to marshal energy and motivation toward the accomplishment of personal goals. Persons scoring high on Drive Strength appear to share and live by many of the

values of self-actualizing people. High Drive Strength appears to be related to high self-regard and inner-directedness. A low score may indicate difficulty in setting and accomplishing goals, a reluctance to experiment or take risks, and a lack of energy or motivation. Low Drive Strength may lead to an unyielding stance and resistance to a change in direction or an active course of action. An offshoot of low Drive Strength is often a refusal to accept responsibility for one's actions.

#### *Decision Making (DM)*

Scores on the Decision Making scale of The Personal Skills Map<sup>®</sup> indicate one's perceived skill in formulating and initiating effective problem-solving procedures. Persons scoring high on Decision Making tend to be self-actualizing, assertive, and inner-directed. Good decision-making skills are an important element in mental health. The ability to make decisions is a key ingredient of self-acceptance and positive self-regard. A low score on this scale indicates a lack of decision-making skills and difficulty in solving problems.

#### *Time Management (TM)*

This scale is an assessment of ability to organize and use time to further individual and career goals. A high score on Time Management is related to high self-regard, a sensitivity to one's own needs, and perseverance in completing tasks. A low score (skill to develop) may indicate a lack of skill or inability to organize time, difficulty in completing daily tasks, and a tendency to let events control one's actions rather than take charge and fulfill self-imposed commitments.

### *Sales Orientation/Leadership (SO)*

Leadership, Interpersonal Impact, Persuasiveness: This score reflects assessment of how well one can influence people and have a positive impact on them. A high score indicates self-assured behavior and assertiveness in one's relationships with others. Persons scoring high on this scale may assume leadership of a group and demonstrate enthusiasm, energy, and warmth. A low score may indicate a perceived inability to have an impact on others or a lack of skill in influencing others. Persons scoring low on this scale may be unable to see themselves as having a positive influence on others and may be uncomfortable or timorous in their approach to others.

### *Commitment Ethic (CE)*

Task Completion: Scores on this scale indicate perceived skill in ability to complete projects and job assignments dependably and successfully. Persons scoring high on Commitment Ethic tend to be inner-directed and persevering in completing projects regardless of difficulties encountered. These persons trust themselves and are usually perceived by others as being dependable and committed. A low score indicates a perceived inability or lack of skill in following through to meet responsibilities and commitments. These individuals may have a tendency to take on projects and then let them lapse because of a lack of commitment.

### *Stress Management (SM)*

Scores on this scale reflect perceived skill in managing stress and anxiety. A high score indicates developed skills for managing stress positively. Persons scoring high on Stress Management are competent managers of time, and are flexible, self-assured, stable, and self-reliant. Good Stress Management skills are essential to creative and healthful living

and are a key element of a healthy personality. A low score indicates an inability or lack of skill in dealing with stress. Extremely low stress management skills may result in negative reactions to life stress, with behavioral patterns and habits that may be psychologically or physically self-destructive. Eating and sleep disturbances and physical symptoms such as persistent headaches, digestive problems, and hypertension are negative reactions to life stress and the results of stress skill deficits.

*Physical Wellness (PW) or Growth Motivation*

Scores on this Personal Skills Map<sup>®</sup> scale reflect the extent to which one has currently developed healthy attitudes and living patterns that are important to physical health and well-being. Physical Wellness is closely related to positive stress management and self-esteem as measured by the Personal Skills Map<sup>®</sup>. A high score on this scale indicates that a person has developed healthy self-control of potentially harmful behavior patterns and is currently physically healthy. A low score indicates perceived problematic behaviors and the awareness of a personal need to further develop life skills that are important to physical and emotional health.

*Interpersonal Awareness (IAw)*

Scores on this scale are an indication of current evaluation of how well one judges appropriate social, emotional, and physical distance in verbal and nonverbal interactions with others. A high score on Interpersonal Awareness indicates an ability to express feelings appropriately and spontaneously and to foster mutually comfortable, self-assured, and relaxed communications with others. A low score on this scale indicates some difficulty in relating comfortably to others, manifested by behavior that is either too reticent or too brash.

### *Change Orientation (CO)*

Scores on this scale indicate the degree to which one is motivated and ready for change in the skills measured by the Personal Skills Map<sup>®</sup>. Change Orientation is negatively correlated to all personal skill scales except Interpersonal Aggression and Interpersonal Deference. A high score on Change Orientation indicates dissatisfaction with current skills and a strong conviction of the need to make personal changes.

### Subjects of the Study

The 2005-2006 Skills Map Report was requested from U.S. Army Cadet Command. The report includes scores, grades, and demographics from cadets in grades 9-12 located in different schools and with diverse populations (inner city high schools such as Atlanta, Georgia; Detroit, Michigan; and Los Angeles, California; a military academy in Wisconsin; various schools in Alabama, Louisiana, Colorado, Florida, Massachusetts, Mississippi, North Carolina, Kansas, Arizona, and Tennessee; a rural high school in South Carolina; high schools on Indian Reservations; a remote high school in Alaska; suburban schools in Alaska and California; and Department of Defense schools in Germany and Japan. The total sample includes data from approximately 500 cadets (an average of 15-25 cadets per high school). Demographics are approximately 21% Caucasian, 24% African American, 26% Hispanic, 16% Native American, 5% Alaskan, and 8% Asian. Approximately 48% of the cadets are male and 52% female. Cadets took the Personal Skills Map<sup>®</sup> inventory as a part of their curriculum.

### Sampling Design

U.S. Army Cadet Command Headquarters collects reports from its 1645 JROTC units for various purposes to include program evaluation. The researcher requested a copy of the 2005-2006 Skills Map report which consists of data from approximately 20 randomly selected



JROTC units from diverse locations across the country and overseas. Data consist of scores from existing instruments used in Army JROTC including the 244 item Personal Skills Map<sup>®</sup>, as well as corresponding grade point averages, program participation, and demographic information.

### Measures

The instrument used to quantify the skill levels is the Personal Skills Map<sup>®</sup> created and developed in 1976 by two psychologists, Dr. Darwin B. Nelson and Dr. Gary R. Low. The skills map is a 244 item, un-timed, self-assessment instrument used to identify key dimensions of personal skills and to place the results along a continuum with three major categories – skills to develop, skills to strengthen, and skills to enhance. It uses 13 scales to measure 11 personal skills (Self-Esteem SE, Growth Motivation GM [or, as of 1983, Physical Wellness PW], Interpersonal Assertion IA [determined by two subscores - Interpersonal Aggression IA<sub>g</sub> and Interpersonal Deference IA<sub>d</sub>], Empathy E, Drive Strength DS, Decision Making DM, Time Management TM, Sales Orientation SO, Commitment Ethic CE, Stress Management SM, and Interpersonal Awareness IA<sub>w</sub>). It also measures Change Orientation CO. Students assess their current levels of personal skill development using either a paper and pencil, computer, or classroom performance system (by eInstruction<sup>™</sup>) version. Students respond to each item by selecting L (least descriptive), S (sometimes descriptive), or M (most descriptive). Score values for each selection are placed in columns associated with the skills being measured. At the end of each section the raw scores are totaled and plotted along a continuum for the personal skill. Standard scores are located at the top of the map. (Schmitz, 2005) The PSM<sup>®</sup> scoring scale follows in Figure 1. More information on the PSM<sup>®</sup> is at Appendix A.



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Name: \_\_\_\_\_

**PERSONAL SKILLS MAP**  
An interpretive guide for the results of your Personal Skills Map

**PERSONAL SKILLS MAP**

The Personal Skills Map is a positive approach to the self-assessment of skills that are essential in a learning organization. The purpose of self-assessment with the Personal Skills Map is to provide you with a map or guide for your personal and professional growth and change. By understanding your Personal Skills Map profile you may become more aware of your strengths as a person and identify potential areas of possible change and growth. The Personal Skills Map provides a self-assessment of your present level of perceived skill development in essential areas of personal and professional effectiveness. Personal Skills Map results may be considered in planning educational, skill-building, or personal growth experiences that will assist you in developing or enhancing your unique potential as a person as well as a contributing member of your school or organization. The profile (Personal Map) of your Personal Skills Map results provides a self-assessment of: (1) your present level of development in intrapersonal, interpersonal, career/life effectiveness, and personal wellness skills (2) your interpersonal communication and conflict resolution style, and (3) your present orientation or readiness for personal skill changes.

**PERSONAL SKILL SCALES**

Your results for each scale of the Personal Skills Map in the major dimensions of personal skills are presented on this profile. Your level of skill development for each of the eleven scales has been plotted on the profile. A scale score may be considered a skill strength if the score is at or beyond a standard score of 60. A standard score on any skill scale between 40 and 60 may be thought of as a "normal" or "average" level of skill development. A standard score below 40 can be thought of as an indication for skill changes and may indicate that personal skills in this area are not functionally developed.

PERSONAL MAP																	
SKILLS	STANDARD SCORES												SKILLS				
INTRAPERSONAL SKILLS	20	25	30	35	40	45	50	55	60	65	70	75	80	80	90	92	INTRAPERSONAL SKILLS
SELF ESTEEM	17	24	31	38	45	52	59	66	73	80	87	90	92	SELF ESTEEM			
INTERPERSONAL SKILLS													INTERPERSONAL SKILLS				
INTERPERSONAL ASSERTION	9	D	12	15	18	21	24	27	30	33	36	E	INTERPERSONAL ASSERTION				
INTERPERSONAL AWARENESS	5	7	E	9	11	13	15	17	19	21	23	24	N	INTERPERSONAL AWARENESS			
EMPATHY	6	8	V	10	12	14	16	18	20	22	24	H	EMPATHY				
CAREER/LIFE SKILLS													CAREER/LIFE SKILLS				
DRIVE STRENGTH/MOTIVATION	10	14	L	18	22	26	30	N	34	38	42	46	50	N	DRIVE STRENGTH/MOTIVATION		
DECISION MAKING	5	8	O	10	12	14	G	16	18	20	22	24	C	DECISION MAKING			
TIME MANAGEMENT	5	8	P	10	12	14	T	16	18	20	22	24	E	TIME MANAGEMENT			
SALES ORIENTATION/LEADERSHIP	4	6	9	11	13	H	15	17	19	21	24	SALES ORIENTATION/LEADERSHIP					
COMMITMENT ETHIC	8	10	12	14	16	E	18	20	22	24	COMMITMENT ETHIC						
PERSONAL WELLNESS													PERSONAL WELLNESS				
STRESS MANAGEMENT	4	9	14	19	24	N	29	34	39	44	49	STRESS MANAGEMENT					
PHYSICAL WELLNESS	5	7	11	15	19	23	27	31	34	38	40	PHYSICAL WELLNESS					

**INTERPERSONAL COMMUNICATION MAP**  
PERSONAL COMMUNICATION STYLE

COMMUNICATION STYLE	LOW			NORMAL			HIGH				COMMUNICATION STYLE	
INTERPERSONAL AGGRESSION	2	4	6	8	11	15	19	24	29	35	INTERPERSONAL AGGRESSION	
INTERPERSONAL DEFERENCE	2	4	6	10	14	18	22	26	30	32	36	INTERPERSONAL DEFERENCE

**PERSONAL CHANGE ORIENTATION**

SCALE	LOW				NORMAL			HIGH				SCALE
PERSONAL CHANGE ORIENTATION	1	3	5	7	9	11	13	16	18	21	24	PERSONAL CHANGE ORIENTATION

Figure 1.

Note. From *The Personal Skills Map® Research Manual* by T. Schmitz, 2001 Oshkosh, WI: The Conover Company. Copyright 2006 by Oakwood Solutions. Reprinted with permission.

The Personal Skills Map<sup>®</sup> Research Manual (Schmitz, 2001) was used to determine the reliability and validity of the assessment tool. According to Gall, et al. (2004), test reliability can be determined by the stability of scores in a test-retest situation. In such a study on community college students, the reliability coefficients for the skills map ranged from .64 on the Empathy (E) scale to .94 on the Sales Orientation (SO) scale (Schmitz, 2001). A reliability study performed by Ellis (2004) on continuation school students resulted in coefficients from .47 on Sales Orientation (SO) and .88 on Interpersonal Aggression (IAg). Although Gall, et al. (2004), recommend a coefficient of .80 to indicate good reliability, scores relating to personal skills can change with environment, education, and training as well as situational issues. Using the Pearson *r* to measure correlation between the college and continuation students, Ellis found a strong, useful relationship of .66 between the two. As such, the personal skills assessment is considered to be reliable for both populations. A test-retest reliability study was also performed with JROTC cadets. To test the reliability and validity for this population, 10 cadets took the 244 item instrument twice within the period of one month. Correlations between the pre and post tests on the different scales ranged from .703 to .958 with an average of .915. Though the sample was small, correlations were significantly high enough to indicate the instrument is valid and reliable for this population (JROTC).

According to the Personal Skills Map<sup>®</sup> Research Manual (Schmitz, 2001), validity tests on the Personal Skills Map<sup>®</sup> include comparisons of three distinct populations as well as correlations with other widely used instruments. The skills map was administered to a group of professional helpers to include doctors and other professionals, a group randomly selected from the normal adult population, and a group of persons undergoing therapy. Personal Skills Map<sup>®</sup> scale means, mean differences, and *t* ratios indicate that all scales significantly differentiated the

professionals (high scores) from the normal adult population (average scores) to those seeking therapy (low scores). Scale by scale measures significantly correlated with Shostrom's (1962) Personal Orientation Inventory (POI), Edward's (1953) Personal Preference Schedule (EPPS), Cattell's (1956) 16 Personality Factor Questionnaire (16 PF), and Hathaway and McKinley's (1943) Minnesota Multiphasic Personality Inventory (MMPI). Basically, if those taking the skills map assessment are willing to look at themselves and their behavior honestly, they have the ability to locate their starting point on their map to better understand their circumstances and to devise a plan for positive growth. The skill levels as determined by this instrument can be measured against other variables (academic achievement by gender, service, leadership, and learning styles) to illustrate positive, neutral, or negative correlations.

#### Data Collection Procedures

Data collected was displayed on graphs generated by SPSS software. Variables in the study were measured using totals from each of the 11 personal skills calculated in the Personal Skills Map<sup>®</sup> and current grade point averages. Other variables such as gender, participation in service learning, holding leadership positions, and learning styles served to categorize the data in order to observe any differences in the groups. Participants' identities were protected because data were obtained through secondary sources without names. Results of the study were reported without identifying specific schools.

#### Pilot Testing

A pilot test was not conducted in this study since it used existing data.

#### Data Analysis Procedures

Relationships among high and low levels of academic achievement as measured by grade point average (criterion variable) and levels of various emotional skills as measured by the

Personal Skills Map<sup>®</sup> (predictor variables) were explored in this study. Other variables were gender, involvement in service-learning versus non-involvement, participation in leadership versus non-leadership positions and learning styles. Bivariate correlation statistics were used to compare the predictor variables (personal skills) with the criterion variable (current grade point averages). Independent samples – t tests were used to compare mean scores of current grade point averages by gender, participation in service learning, and leadership roles. Means of current grade point averages of different learning styles were compared. Data were analyzed employing the SPSS computer program.

#### Limitations of Methodology and Strategies for Minimizing Impact

Limitations to the research design were that the scores from the Personal Skills Map<sup>®</sup> are self-reported and that there is little agreement on what skills make up emotional intelligence. Data were made available from U.S. Army Cadet Command that collects it from districts and schools from different areas of the country. Since there are different versions of the Personal Skills Map<sup>®</sup> in the Army JROTC program, only the data from those schools that administer the validated version were submitted in the report.

#### *Internal Validity*

##### *Bias*

The Personal Skills Map<sup>®</sup> used in the Army JROTC program measures personal skills. Since existing data were used, other instruments and measures were not considered.

##### *Sampling*

The sample is limited because data provided to the headquarters consisted only of those JROTC students who took the prescribed assessments (244 item version of the Personal Skills Map<sup>®</sup>). Only data from the population taking this version of the assessment and instructors who

voluntarily reported the data could be used. The sample size consisted of 486 reports from 21 different schools. Learning styles used were reported from 271 students and 18 locations.

### *Confounding*

Confounding was a concern in this study. Other extraneous variables could have influenced the outcome. For example, major events within the school or program could have impacted overall academic achievement or levels of emotional intelligence skills in the entire student body or in students individually. Also, did X come before Y or did Y come before X? Does having higher grades influence levels of self-esteem and confidence or vice versa? According to the Personal Skills Map<sup>®</sup> research manual (2001), many of the scales in the skills map are highly correlated with each other, so each scale had to be individually compared with current grade point averages.

### *Content Validity and History*

Variables used in this study have been used in other studies. An extensive literature review revealed other studies that explored the variables in different contexts. Some recommended further research in other venues and with larger samples.

### *Instrumentation*

The instrument used in this study was the Personal Skills Map<sup>®</sup>. This instrument encompasses all aspects of emotional intelligence to include traits, competencies, and skills. A reliability test completed with JROTC cadets further increased its consistency.

### *Population sample*

Because the Army JROTC program exists in all 50 states and many various locations, the data from diverse population samples in this study increased the validity of the results as the findings from the different scenarios could be compared and thus trusted.

## External Validity

Findings can be generalized to the remaining JROTC units because of the size of the sample, the wide range of locations, and the anonymity of the data. Though the results of this study cannot be universally generalized beyond the JROTC population, the report applies across the remaining programs and inferences to other audiences can be made.

## Findings

Conclusions drawn are limited to relationships illustrated and probability of a continued relationship between variables. The high correlations found may lead to further experimental studies to explore causes or correlational studies with different audiences. The significantly high correlations between emotional intelligence and academic achievement, between participation in service learning and leadership roles, and between different learning styles that resulted from this study also contribute to existing knowledge. The lack of significant correlations between personal awareness and gender also contribute. Further research is prompted to explore the theory further. Correlations between factors that relate to academic achievement, such as different aspects of emotional intelligence, at least initiate a discussion as to the consideration of attaining the goal of academic achievement through avenues other than repeated or expanded academic classes. The relationships demonstrated by this study using the Personal Skills Map<sup>®</sup> to measure the relationship of 13 scales of 11 personal skills (EQ) to academic achievement provide data to administrators and educators that may enable them to make better decisions in prioritizing what stays in the school schedule and what does not.

## Ethical Issues

Data collection entailed compiling information from an existing source where names and specific locations were not available. The reported findings were written to avoid any connection

to individuals or groups of individuals that participated. Interpretations were checked by peers and professionals to ensure they legitimately revealed what the data said. The findings were reported with care so as to not insinuate unfavorable differences between general locations or populations. No names were associated with any of the data collected or any aspect of the study. Ethics were the most important part of the study and were taken seriously in every aspect of the research and reports.

#### Time-lines

Data was analyzed in October 2006. The statistical analysis and write up of findings took approximately one month.

#### Conclusion

Many educators are making choices that increase academic rigor, sometimes at the expense of programs that might be more effective in meeting the achievement goal. Correlations between factors that relate to academic achievement, such as emotional intelligence, raise the question of whether repeated doses of the subject matter are the best way to meet the goal of academic achievement. The relationships demonstrated by this study using the Personal Skills Map<sup>®</sup> to measure the relationship of emotional intelligence, as illustrated by 11 personal skills, to academic achievement are quite noteworthy. Other factors such as gender, participating in service learning, holding leadership positions, and differing learning styles also provide valuable information. Only with further studies can administrators have sufficient statistics to help them make the decisions that determine the best priorities for their school populations. Research is needed quickly because the children are the pawns until enough evidence accumulates to support what is best for their prosperity – or for that matter, their survival.



## CHAPTER 4. DATA COLLECTION AND ANALYSIS

### Introduction

Academic achievement is the stated goal of education; therefore, as mentioned previously, many educators are making choices that increase academic requirements in the school schedule. Correlations between factors that possibly relate to academic achievement, such as emotional intelligence, help educators make hard decisions on how many and what kind of electives to include in the curriculum. These administrators could also consider the importance of encouraging student-centered teaching strategies as well as using methods to create and maintain a positive classroom climate, both of which promote social and emotional skill building that is credited with increased emotional intelligence. Several research studies already support the importance of emotional intelligence to academic achievement; however, more studies are needed to add credence to the existing body of research. The purpose of this study is to add to the literature by exploring the relationship between low and high levels of academic achievement and low and high levels of emotional intelligence skills in Army JROTC. The purpose of this chapter is to present the results of the analysis. Dr. Mirabella (2006) provided the framework for the hypothesis tests to use, the processes to follow, and the presentation of the results in his eBook, *Hypothesis Testing with SPSS: A Non-Statistician's Guide & Tutorial*.

### Research Design

Data used in the study were obtained through the U.S. Army Cadet Command. Emotional intelligence and demographic data were collected through the 2005-2006 Skills Map Report. The assessment instrument used was the Personal Skills Map<sup>®</sup>.

The Skills Map Report represents a random sampling of JROTC cadets. Subjects are located in 21 schools across the United States and in Department of Defense Dependent Schools overseas in Germany and Japan. A total of 486 records were used, 254 female and 232 male. Age breakout included 64 fourteen year olds, 159 fifteen year olds, 123 sixteen year olds, 80 seventeen year olds, 58 eighteen year olds, and 2 nineteen year olds. Grade levels ranged from 170 in grade nine, 143 in grade ten, 103 in grade eleven, and 70 in grade twelve. Because students can enter JROTC at any given time, grade, age and JROTC education and training levels vary. Of the cadets, 192 were in the first year of JROTC, 147 in the second year, 87 in the third year, and 60 in the fourth year. Demographics included 272 cadets on the free or reduced lunch program and 214 not on a lunch program; 119 African Americans, 26 Alaskans, 39 Asians, 99 Caucasians, 126 Hispanics, and 77 Native Americans.

In order to explore relationships between emotional intelligence and academic achievement, scores on 11 personal scales of the Personal Skills Map<sup>®</sup> were correlated with corresponding grade point averages. Gender, leadership, service learning, and learning styles were compared with grade point averages as well.

### Analysis of Research Hypotheses

#### *Research Question 1*

Is there a relationship between emotional intelligence and academic achievement in JROTC cadets?

Ho1. Null Hypothesis: There is not a relationship between emotional intelligence skills as measured by 11 scales of the Personal Skills Map<sup>®</sup> and academic achievement in JROTC cadets as measured by current grade point averages on a scale of .5 to 4.3 during school year 2005-2006.

In order to answer Research Question 1, it was necessary to look at separate null hypotheses for each of the 11 personal skills.

- Ho1a. There is no correlation between current GPA and Commitment Ethic as measured on a scale of 1 – 24.
- Ho1b. There is no correlation between current GPA and Drive Strength as measured on a scale of 1 – 48.
- Ho1c. There is no correlation between current GPA and Decision Making as measured on a scale of 1 – 24.
- Ho1d. There is no correlation between current GPA and Empathy as measured on a scale of 1 – 24.
- Ho1e. There is no correlation between current GPA and Physical Wellness as measured on a scale 1 – 40.
- Ho1f. There is no correlation between current GPA and Sales Orientation as measured on a scale of 1 – 24.
- Ho1g. There is no correlation between current GPA and Self-Esteem as measured on a scale of 1 – 92.
- Ho1h. There is no correlation between current GPA and Stress Management as measured on a scale of 1 – 50.
- Ho1i. There is no correlation between current GPA and Time Management as measured on a scale of 1 – 24.
- Ho1j. There is no correlation between current GPA and Assertion as measured on as scale of 1 – 36.

Ho1k. There is no correlation between current GPA and Interpersonal Awareness as measured on a scale of 1 – 24.

Since GPA and each personal skill are scale variables, a test of correlation was considered. To use this test, a few assumptions needed to be satisfied. First, both the GPA and the personal skills must be normally distributed. To address this assumption, a histogram and a one-sample Kolmogorov-Smimov (KS) test were run on the GPA. Figure 2 illustrates a normal distribution for GPA.

One-Sample Kolmogorov-Smimnov Test

		GPA
N		486
Normal Parameters(a,b)	Mean	2.8221
	Std. Deviation	.76589
Most Extreme Differences	Absolute	.075
	Positive	.035
	Negative	-.075
Kolmogorov-Smimnov Z		1.662
Asymp. Sig. (2-tailed)		.008

a Test distribution is Normal.  
b Calculated from data.

Figure 2. One-Sample KS test for GPA

The second assumption to be satisfied in using a test of correlation is that the observations have to be independent of each other and in no way related to each other. Also, the variance of the personal skills scores have to be the same across all GPAs with a linear relationship between the GPAs and personal skill scores. A one-sample Kolmogorov-Smimov test was also performed on each of the personal skills.

Table 1. Descriptive Statistics, Significance, and Test Normality.

Variable	Mean	Std Dev	Min	Max	Ass/2 t	Test Dist
GPA	2.8	.765	.50	4.30	.008	Normal
Commitment Ethic	16.3	4.7	2	24	.001	Normal
Drive Strength	29	9	2	47	.092	Normal
Decision Making	12.2	3.7	1	20	.005	Normal
Empathy	17.3	5.2	2	24	.000	Normal
Physical Wellness	22.5	7.3	2	40	.001	Normal
Sales Orientation	14.9	4.7	1	24	.003	Normal
Self Esteem	54.5	16.9	6	87	.000	Normal
Stress Management	24.5	9.8	1	48	.035	Normal
Time Management	13.9	4.7	1	24	.001	Normal
Assertion	23.8	6.7	1	36	.082	Normal
Aggression	13	7.4	1	36	.001	Normal
Deference	15.7	7.3	1	36	.032	Normal
Interpersonal Awareness	16.4	4.7	1	24	.149	Normal

Table 1, in addition to displaying descriptive statistics, illustrates that the test distributions were normal. The test for normality also confirms that the variance of personal skills scores is the same across all of the GPAs. The researcher can verify that the data collection was such that the samples are independent and the GPAs and personal skills scores are not linked in any way. Finally, simple scatter diagrams revealed a linear pattern where increasing personal skills scores corresponded to increasing GPAs. As the assumptions were satisfied, correlations could be examined using the Pearson  $r$ . The analysis was performed using the SPSS version 14 on each scale. Table 2 illustrates the results.

Table 2. Pearson Correlation for Emotional Intelligence Variables and Current GPA

Variables	Academic Achievement	(GPA)
	<u>Cadets (n = 486)</u>	
EQ Variables	r	sig (2 tail)
Commitment Ethic	.234**	.000
Drive Strength	.219**	.000
Decision Making	.128**	.005
Empathy	.126**	.005
Physical Wellness	.109*	.016
Sales Orientation	.147**	.001
Self Esteem	.172**	.000
Stress Management	.132**	.004
Time Management	.196**	.000
Assertion	.131**	.004
Aggression	-.144**	.001
Deference	-.048	.292
Awareness	.070	.125

\* p < .05; \*\*p < .01

### *Results of Correlation of Scales*

The first skill, Ho1a – Commitment Ethic (CE), is the ability to successfully complete projects and job assignments. With a p-value of .000 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between commitment ethic and grade point average. Since the R for CE is .234, as commitment ethic increases, academic achievement increases as well.

Ho1b – Drive Strength (DS) is the ability to effectively direct individual energy, motivation, and achievement. With a p-value of .000 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between drive strength and grade

point average. Since the R for DE is .219, as drive strength increases, academic achievement increases as well.

Ho1c – Decision-making (DM) is the ability to initiate, formulate, and implement effective problem-solving procedures. With a p-value of .005 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between decision-making and grade point average. Since the R for DM is .128, as drive strength increases, academic achievement increases as well.

Ho1d – Empathy (E) is the ability to accurately understand and accept another person's thoughts, feelings, and behaviors. With a p-value of .005 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between empathy and grade point average. Since the R for E is .128, as empathy increases, academic achievement increases as well.

Ho1e – Physical Wellness (PW) is a personal skill in the ability to take care of one's physical self and avoid self-destructive behaviors. With a p-value of .016 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between physical wellness and grade point average. Since the R for PW is .109, as physical wellness increases, academic achievement increases as well.

Ho1f – Sales Orientation (SO), or leadership, is the ability to positively impact and influence others. With a p-value of .001 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between sales orientation and grade point average. Since the R for SO is .147, as sales orientation increases, academic achievement increases as well.

Ho1g – Self-Esteem (SE) is a personal skill in the ability to accurately evaluate self or a self-perceived level of personal worth. With a p-value of .000 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between self-esteem and grade point average. Since the R for SE is .172, as self-esteem increases, academic achievement increases as well.

Ho1h – Stress Management (SM) is a personal skill in the ability to positively manage stress and anxiety. With a p-value of .004 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between stress management and grade point average. Since the R for SM is .128, as stress management increases, academic achievement increases as well.

Ho1i – Time Management (TM) is a personal skill in the ability to use time effectively for the accomplishment of individual and career goals. With a p-value of .000 which is less than .05, the null hypothesis was rejected; thus it can be concluded that a correlation exists between time management and grade point average. Since the R for TM is .196, as time management increases, academic achievement increases as well.

Ho1j – Interpersonal Assertion (IA) is a personal communication skill indicated by the direct, honest, and appropriate expression of thoughts, feelings, and behaviors. It is a balance between Deference (ID) and Aggression (IAg). With a p-value of .004 which is less than .05, the null hypothesis was rejected; thus it was concluded that a correlation exists between interpersonal assertion and grade point average. Since the R for IA is .131, as assertion increases, academic achievement increases as well. Further analysis on the Interpersonal Assertion skill subscales, ID and IAg, reveals negative correlations with grade point averages. With a p-value of .292 which is more than .05 and an R of -.48, deference is not significantly correlated with



academic achievement. With a p-value of .001, however, which is less than .05, a significant negative correlation does exist between aggression and grade point average. With an R of -.144, as aggression increases, academic achievement decreases.

Ho1k – Interpersonal Awareness (IAw) is a personal skill in the ability to judge appropriate social and physical distance in verbal and non-verbal interactions with others. With a p-value of .125 which is greater than .05, the null hypothesis was accepted; thus it was concluded that a significant correlation does not exist between interpersonal awareness and grade point average. Since the R for IAw is only .070, academic achievement may not increase as interpersonal awareness increases.

In summary, there is sufficient evidence to conclude that a correlation exists between grade point average and Commitment Ethic, Drive Strength, Decision-making, Empathy, Physical Wellness, Sales Orientation, Self Esteem, Stress Management, Time Management, and Interpersonal Assertion. There is not sufficient evidence to conclude a correlation exists between grade point average and Interpersonal Awareness.

### *Research Question 2*

Is academic achievement higher for girls than boys in the JROTC program?

Ho2. Null Hypothesis: The mean GPA of female JROTC cadets equals that of male JROTC cadets.

Since sample means between two independent groups are being compared, a t-test for two independent samples can be used. To do so, there are a few assumptions. First of all, grade point averages must be normally distributed. The samples must also be independent in that they are not linked in any way and a direct link between individual males and females does not exist.

Finally, the variances must be equal. This last assumption can be violated since the t-test is powerful enough to overcome it; however, unequal variances use different measures.

Table 3. Descriptive Statistics, Significance, and Test Normality.

Variable	Gender	n	Mean	Std Dev	Min	Max	Ass/2t	Test Dist
Current	F	254	2.8757	.71594	1.0	4.3	.489	Normal
GPA	M	232	2.7633	.81459	.50	4.3	.025	Normal

Table 3, in addition to providing descriptive statistics, illustrates that GPA can be assumed to be normally distributed, based on the results of a one-sample Kolmogorov-Smimnov test. The researcher can also verify that the data collection was such that the samples are independent and not linked in any way to include direct links between individual males and females. The assumptions being met, the t test was performed and the results are exhibited below.

Table 4. Equality of Variances and Equality of Means in Female and Male GPA.

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig (2-tailed)
Current GPA					
Equal Variances Assumed	4.649	.032	1.619	484	.106
Equal Variances Not Assumed			1.609	462	.108

Levene's Test for Equality of Variance indicates equality of variances cannot be assumed since the significant value of .032 is lower than .05. Therefore, the second row, equal variances not assumed, was used to analyze the numbers. With a p-value of .108 which is greater than .05, the null hypothesis is not rejected. There is insufficient evidence to indicate a difference in GPAs for males vs. females.

*Research Question 3*

Is academic achievement higher for JROTC cadets who participate in service learning than cadets who do not?

Ho3. Null Hypothesis: The mean GPA of JROTC cadets who participated in service learning equals that of JROTC cadets who did not participate in service learning.

Since this hypothesis again involves comparing sample means between two independent groups, a t-test for two independent samples was considered and the assumptions were investigated.

Table 5. Descriptive Statistics, Significance, and Test Normality.

Variable	Svc Lng	n	Mean	Std Dev	Min	Max	Ass/2t	Test Dist
Current	Yes	339	2.9834	.70483	1.0	4.3	.160	Normal
GPA	No	147	2.4500	.77373	.50	4.0	.206	Normal

Table 5 illustrates that GPA can be assumed to be normally distributed, based on the results of a one-sample Kolmogorov-Smimnov test. In addition, the researcher can verify that the data collection was such that the samples are independent and not linked in any way to include

direct links between individuals who participated in service learning and those who did not. The assumptions being met, the t test was performed and the results are exhibited in Table 6.

Table 6. Equality of Variances and Equality of Means in Grade Point Averages of Cadets who Participate in Service Learning and Cadets who do not Participate in Service Learning.

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig (2-tailed)
Current GPA						
Equal Variances	Assumed	3.984	.046	7.436	484	.000
Equal Variances	Not Assumed			7.168	256	.000

Levene's Test for Equality of Variance indicates equality of variances cannot be assumed since the significant value of .031 is lower than .05. Therefore, the second row, equal variances not assumed, was used to analyze the numbers. With a p-value of .000 which is less than .05, the null hypothesis is rejected. It can be concluded that cadets who participated in service learning had significantly higher GPAs than those who did not.

*Research Question 4*

Is academic achievement higher for cadets who hold major leadership positions in JROTC than for cadets who do not?

Ho 4. Null Hypothesis: The mean GPA of JROTC cadets who held major leadership positions equals that of cadets who did not hold major leadership positions.

Since this hypothesis also involves comparing sample means between two independent groups, a t-test for two independent samples was again considered and the assumptions examined.

Table 7 Descriptive Statistics, Significance, and Test Normality

Variable	Ldrshp	n	Mean	Stand Dev	Min	Max	Ass/2t	Test Dist
Current	Yes	72	3.1129	.57642	1.65	4.30	.826	Normal
GPA	No	414	2.7715	.78384	.50	4.30	.017	Normal

Table 7 illustrates that GPA can be assumed to be normally distributed, based on the results of a one-sample Kolmogorov-Smimnov test. In addition, the researcher can verify that the data collection was such that the samples are independent and not linked in any way to include direct links between individuals who held major leadership positions and those who did not. The assumptions being met, the t test for two independent samples was performed.

Table 8. Equality of Variances and Equality of Means in Grade Point Averages of Cadets who Hold Leadership Positions and Cadets who do not.

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig (2-tailed)
Current GPA					
Equal Variances Assumed	9.762	.002	3.533	484	.000
Equal Variances Not Assumed			4.372	122	.000

In Table 8 Levene's Test for Equality of Variance indicates equality of variances cannot be assumed since the significant value of .031 is lower than .05. Therefore, the second row, equal variances not assumed, was used to analyze the numbers. With a p-value of .000 which is less than .05, the null hypothesis is rejected. It can be concluded that cadets who held major leadership positions had significantly higher GPAs than those who did not.

*Research Question 5*

Is academic achievement higher for JROTC cadets with Leader/Planner learning styles than it is for cadets with Adventurer/Relater learning styles?

Ho 5. Null Hypothesis: The mean GPA of JROTC cadets with Leader/Planner learning styles equals that of cadets with Adventurer/Relater learning styles.

Note that a smaller sample was used to explore these learning styles since some of the subjects did not record the Winning Color<sup>®</sup> scores accurately or at all. Again, this hypothesis

involves comparing sample means between two independent groups; therefore, a t-test for two independent samples was considered and the assumptions investigated.

Table 9. Descriptive Statistics, Significance, and Test Normality.

Variable	Lng Style	n	Mean	Std Dev	Min	Max	Ass/2t	Test Dist
Current GPA	Brown/Grn	133	3.0356	.71485	1.01	4.30	.909	Normal
	Red/Blue	138	2.7856	.78798	50	4.30	.127	Normal

Table 9 illustrates that GPA can be assumed to be normally distributed, based on the results of a one-sample Kolmogorov-Smimnov test. In addition, the researcher can verify that the data collection was such that the samples are independent and not linked in any way to include direct links between individuals with Leader/Planner styles and those with Adventurer/Relater styles. The assumptions being met, the t test for two independent samples was administered.

Table 10. Equality of Variances and Equality of Means in Brown/Green and Red/Blue GPA.

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig (2-tail)
Current GPA	1.094	.296	2.733	269	.007
Equal Variances Assumed					
Equal Variances Not Assumed			2.738	268	.007

Levene's Test for Equality of Variance in Table 10 indicates equality of variances can be assumed since the significant value of .296 is higher than .05. Therefore, the first row, equal variances assumed, was used to analyze the numbers. With a p-value of .000 which is less than .05, the null hypothesis is rejected. It can be concluded that cadets with Leader/Planner styles had significantly higher GPAs than those with Adventurer/Relater styles.

### Summary

This chapter has summarized the findings and results of the analysis of the hypotheses. Chapter Five reviews the research questions and presents the summary, conclusions, recommendations and implications of these findings as well.



## CHAPTER 5. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

### Introduction

This chapter summarizes the problem, analyzes the results in accordance with the related literature, and suggests recommendations for further research. Additionally, this study examines how emotional intelligence relates to academic achievement in Army JROTC and appraises the implications for education.

### Related Literature and Research Problem

Public education is in crisis today. With states scrambling to meet or exceed the requirements of No Child Left Behind, an unprecedented emphasis has been placed on test scores as proof that all students are achieving. In many locations, school courses that do not readily appear to contribute to academic achievement are being squeezed out in favor of time spent preparing for tests. School schedules are full of courses necessary to meet graduation requirements and of remedial classes for those who do not pass the courses. This trend is not new nor is it limited to the United States. Japan is now dealing with the fact that more than 83,000 high school students did not take mandatory subjects because their schools opted to focus primarily on courses needed for university entrance exams (“Curriculum mess known 4 years ago”, 2006).

Adding to the problem of what must be taught, students who want to attend good universities are finding their grade point averages will not be competitive unless they take a full slate of honors courses (which usually confer grade point averages beyond 4.0). A number of these students who want leadership experience cannot take regular classes because they need

honors credit to be competitive. Thus, they miss the opportunity to develop skills such as leadership that will help them navigate through college, career, and life in general.

Many elective courses motivate students to stay in school, either through offering a specialty or an outlet. Paradoxically, the students who are not motivated to achieve in school are often those who cannot take electives because they must take remedial classes. Proponents of these students must convince both political and educational decision makers that elective courses may contribute more to improving test scores and achievement than repeated remedial classes.

The fact that those who must be convinced are often philosophically aligned with Diane Ravitch's conservative views that do not necessarily support a more rounded approach exacerbate this task. Regrettably, some administrators and politicians believe that a reduction in electives is inevitable and is not necessarily something they can control. For example, a high school principal in Olympia, Washington, was recently quoted as saying, "We want to maintain comprehensive high schools, and part of that is having solid elective programs...But the demands put on by the state have altered that some, and I'm not saying that's a good thing or a bad thing. That's the reality (Woodward, 2006)." Continued research convinces school officials that electives are important, and that a fight to save them now will be easier than trying to reinstate them once they are gone. Another option could include substituting credit for required classes; either way, action as opposed to apathy is imperative.

Another phenomenon occurring in the education system is the tension between the importance of social and emotional learning, service learning, and life skills. These skills (such as conflict resolution, goal development, financial education, opportunities for leadership, and career exploration) versus the importance of covering testable content, drill and kill, zero tolerance, and back to basics hold promise for their success. The liberal versus conservative

tension must find middle ground as either extreme is harmful. Teachers hard pressed to raise achievement praise the benefits of student-centered learning. Though they express belief in creating a positive classroom climate, integrating technology, cooperative learning, and developing the whole child, a view into their classrooms sometimes reveals exactly the opposite. Teachers stressed with the amount of material that must be covered return to what is their norm. They continue with patterns that allow them to not relinquish control, but rather to remain in their comfort zone of mundane lectures, worksheets, and knowledge level questions.

Administrators are often caught up in the pressure of how and why instructional strategies should change and whether or not to fight to keep certain electives. They need current research to make better decisions on what teachers should be doing as well as the ammunition to amend unwieldy policies that severely restrict or eliminate electives. Marzano, Caine and Caine, Goldman, and countless others have created a foundation that supports varied instructional strategies, tying learning to emotion, and the importance of emotional intelligence. What remains is for others to build on the foundation and make the case for electives and teaching strategies that need to be included, not excluded, in the quest for higher achievement. Elective programs like Army JROTC with an organizational structure that promotes leadership and citizenship, requires and evaluates service learning, teaches embedded subjects that focus on building character and increasing emotional intelligence, and uses proven instructional strategies, are endangered.

Also important in the discussion of Emotional Intelligence is how it is measured. This study supports the use of the Personal Skills Map<sup>®</sup> as an assessment in that consistent, significant correlations with grade point averages were found across a large, diverse sample. It also supports

the research of Nelson and Low (1999) and Stottlemyer (2002) that emotional and personal skills are predictive of academic achievement.

### Summary of Results

Data collected were analyzed using correlational analyses and independent samples t-tests. Levels of personal skills were determined using the Personal Skills Map<sup>®</sup> which is administered in Army JROTC programs as a part of the curriculum. A summary of the findings follows:

1. The first research question addressed whether there was a relationship between emotional intelligence and academic achievement in JROTC cadets. A correlational analysis was conducted on 11 personal skills and grade point average. All personal skills except for Interpersonal Awareness significantly correlated with grade point averages. Since the p-value of all other personal skills was less than .05, it can be concluded that a correlation exists between 10 personal skills and grade point average and, as these personal skills increase, academic achievement increases as well.

2. Question Two explored whether academic achievement was higher for girls than for boys. Though the grade point average was slightly higher for females (.09), the t-test to compare means of two independent samples indicated the differences in the means were not sufficient to reject the null hypothesis.

3. Service learning was the subject of question Three. Results of the independent samples t-test revealed that cadets who were not involved in service learning had grade point averages that were .5 points less than those cadets who were involved in service learning. The null hypothesis was rejected.

4. Question Four examined whether cadets who held major leadership positions had higher grade point averages than those who did not. The independent samples t-test indicated those who held leadership positions had grade point averages that were .34 points higher than cadets who did not hold major leadership positions. The null hypothesis was rejected.

5. Question five explored whether academic achievement was higher for JROTC cadets with Leader/Planner learning styles than it was for cadets with Adventurer/Relater learning styles. The current grade point averages of Brown/Green styles are significantly higher (.25) than Red/Blue styles. The null hypothesis was rejected.

### Discussion of Results

Results of the study further substantiate arguments that motivation is an important factor in reaching the goal of student achievement. Also, results of this study help to validate the importance of developing the whole person to increase academic achievement. Results of the study add to the growing body of research to support a student focus on building personal skills and understanding learning styles for school administrators to consider. Results of the study also support efforts to implement viable service learning activities and create as many opportunities as possible for students to earn and hold leadership positions in other arenas. Additionally, the study provides further support to the initiation of professional development and assessment plans for teachers to ensure student-centered, brain-based instructional methodologies are used in their classrooms.

1. Question One addressed the relationship between emotional intelligence and academic achievement in JROTC cadets. The analysis found significant relationships between 10 of 11 personal skills and grade point averages. The 11<sup>th</sup> skill, Awareness, did correlate with an R of .07, however, with a significance of just .125, was not enough to prevent rejecting the null

hypothesis. Several studies support these positive relationships to include Pope (1981) who also used the Personal Skills Map<sup>®</sup> and found the personal skills of Growth Motivation (Physical Wellness), Commitment Ethic, Sales Orientation, Assertion, Empathy, and Interpersonal Awareness correlated significantly with grade point averages. Stottlemeyer's (2002) study used a similar instrument, also developed by Dr. Gary Low and Dr. Darwin Nelson, and found some correlations with improved reading and math scores.

Commitment Ethic and Drive Strength correlated most significantly to higher grade point averages. These results were consistent with Ridgell's (2004) findings of meaningful validities for work drive to academic performance. Fritzsche, McIntire, & Yost (2002) found a significant relationship between agreeableness and academic achievement that supports the strong negative correlation found between aggressiveness and grade point average. Caine and Caine's (1997) research indicating teachers should incorporate strategies that help students relate to the curriculum emotionally is also supported by these findings. In addition, this study supports Stottlemeyer's (2002) and Ellis's (2004) recommendation to use instructional practices such as cooperative and student-centered learning that likely contribute to the development of emotional skills. Finally, a significantly high correlation between Self-Esteem and grade point average helps to counter studies in the 1980's that self-esteem is not a factor in academic achievement.

2. Question Two explored whether academic achievement was higher for girls than boys. The females have a mean GPA of 2.8757, while the males have a mean GPA of 2.7633. The female GPA is higher by .09 points. Though the grade point average was slightly higher for females, the t-test to compare means of two independent samples indicated the differences in the means were not sufficient to reject the null hypothesis. The High School Transcript Study (2004) for the years 1990 – 2000 conducted by the National Center for Education Statistics

found that female grade point averages were .26 points higher than males. Dunn, Honigsfeld, and Martel (2001) found that JROTC instructors' learning-style preferences were more similar to females than they were to males, thus providing one possible explanation for females often advancing to leadership positions more rapidly. This same study points out that male students tend to be more visual, tactual, or kinesthetic while females were more auditory. Perhaps since JROTC classrooms provide active learning and mobility which are appealing to the kinesthetic males, differences in academic achievement between males and females may not be as pronounced as they are in the general school population.

3. Question Three addressed service learning. Cadets who were not involved in service learning had grade point averages that were .5 points less than those cadets who were involved in service learning. This significant difference further validates research conducted by Billig (2005), The Corporation for National and Community Service (2004), and Fredericks (2003) that indicate higher achievement for students who participate in quality service learning projects. It is important to note that in Army JROTC it is possible to differentiate between quality projects and ordinary community service. JROTC instructors complete a checklist that indicates the service projects cadets complete meet the quality elements of service-learning. Instructors also use a scoring rubric to measure the efficacy of the projects. Because of these measures, the service-learning activities were legitimate and separate from ordinary community service. As more research is completed on service-learning, relationships between high caliber service projects and high levels of emotional intelligence are emerging. Service learning, an integral component in character education, is now understood as complementary and connected to social and emotional learning as a means to promote positive youth development (Fredericks, 2003). This study on emotional intelligence and academic achievement in Army JROTC helps to validate the

connection of service learning to not only character development, but also to improved academic achievement.

4. Question Four addressed leadership. The independent samples t-test indicated cadets who held major leadership positions had grade point averages .34 points higher than cadets who did not hold major leadership positions. This finding speaks not only to the observation that cadet leaders were higher achievers, but also to the skills and abilities required for cadets to be selected as leaders. These results substantiate the statement put forward by Nelson and Low (2003) that emotional intelligence is linked to successful leadership.

At this juncture, it is reasonable to suggest that programs such as JROTC that provide multiple incentives to aspire for leadership positions could motivate students to develop the personal skills necessary to achieve those goals. Once a cadet achieves a minor position of leadership, further incentives inspire him or her to develop those skills in order to be competitive for higher level command and staff positions. Since this study indicates that academic achievement increases as most personal skills increase, perhaps programs that provide multiple leadership opportunities and the motivation to pursue them contribute toward overall academic achievement.

Research studies on the relationship of holding leadership positions and academic achievement are scarce, as are studies on leadership programs as they relate to higher grades. Reed (2003) found a slight positive impact on the achievement of participants in a middle school leadership program. Reports from JROTC programs indicate higher grade point averages among cadets when compared to students in the rest of the school (U.S. Army JROTC, 2005). Some question may exist over the possibility that the reason the grade point averages for cadets in major leadership positions were higher was because these cadets are normally juniors or seniors



and are in higher levels of JROTC than cadets who do not hold major leadership positions. To address this question, a comparison of grade point averages was conducted. Junior and senior cadet GPA's were only .14 points higher than the freshman and sophomore cadet GPA's. Likewise, the difference in grade point average for third and fourth year cadets versus first and second year cadets were only .16 points higher for the former.

5. Question Five addressed learning styles as determined by the Winning Colors<sup>®</sup> Discover Form. Cadets with brown (leader, decision-maker)/green (planner, thinker) styles had grade point averages .25 higher than cadets with red (adventurer, risk-taker)/blue (relater, team-builder) styles. This finding illustrates the importance of conclusions from Martel, Dunn, and Honigsfeld (2001) that cadets require more active learning strategies and instructors need to expand their teaching repertoires. While cadets with Leader/Planner styles are often content with traditional teaching methods, those with Adventurer/Relater styles require more active tactics to learn. These findings also corroborate Rita Dunn's (1989) survey of research indicating that learning styles must be identified and instruction should be responsive to them.

Yet another aspect of the importance of identifying learning styles comes from Mearns (2005) and his studies of Julian Rotter's Social Learning Theory which describes internal versus external locus of control. Red/blue or Adventurer/Relater styles are generally more outgoing, concerned with appearance, talkative, adventurous, and group oriented. These cadets generally respond well to student-centered learning strategies. Often these cadets have an external locus of control, or a belief that they are not in control of what happens to them. Brown/green or Leader/Planner styles are more introverted, creative, quiet, less inclined to take risks, and prefer to work alone. They are normally able to succeed in most classrooms including those that are

teacher-centered and more traditional. Often these cadets have an internal locus of control, or a belief that they can control what happens to them.

Other studies have indicated that underachieving students tend to have an external locus of control. In her dissertation, *Variations in Test Anxiety and Locus of Control Orientation in Achieving and Underachieving Gifted and Nongifted Middle School Students*, Michele Moore (2006) found the locus of control orientation for gifted achievers tended to be internal, which was significantly different than the locus of control orientation of non-gifted students which tended to be external. Susan Thompson (2006) also found a small relationship between internal locus of control and academic achievement in first year law students.

According to Thompson's extensive review of the literature, an internal locus of control is consistently highly correlated with academic achievement. Those with an internal focus believe they are responsible for their own success or failure; whereas those with an external focus believe their success or failure is largely due to outside forces. Since, according to Mearns, Rotter believed strongly that knowledge was key in shifting this focus, Winning Colors<sup>®</sup> could help students by providing that understanding. Winning Colors<sup>®</sup> also presents instruction to create a better balance between brown/green (internal) behaviors and red/blue (external) behaviors, which could help students shift their focus (S. Neilson, personal communication, February 16, 2005). Winning Colors<sup>®</sup> may assist teachers and instructors to be responsive to temperaments, differences in locus of control, and behaviors. It is an excellent program that also teaches conflict resolution, career exploration, and character education – all of which could improve achievement.

## Recommendations for Further Study

Additional studies will either strengthen or disprove the connection of emotional intelligence to academic achievement. As instructional leaders and administrators struggle to find solutions, it is imperative they have solid research to help them make vital decisions. Evaluation of student-centered teaching strategies, service learning, and learning styles as they relate to student achievement must continue. Programs such as JROTC that require time in the school schedule need to be constantly reviewed for their contribution to achievement and student success. Further research is necessary to ensure these programs do not fall victim to misguided policies, and that students who need them the most can fit them into their schedules.

This study can be replicated using the 2005-2006 Skills Map Report or future annual reports. Demographics (ethnicity, socio-economic status) or other data such as age or grade level included in the report, which are outside of the scope of this study, can be explored. In addition, the Personal Skills Map<sup>®</sup> can be further validated as a measure of emotional intelligence whether used alone or in combination with other instruments. Further research using different populations may add another dimension to this topic.

## Implications for Practice

This study builds on current research that indicates personal skills, leadership, and service learning are related to higher grade point averages. While measuring academic achievement in schools is important, so too is measuring skill development with instruments such as the Personal Skills Map<sup>®</sup>. Educators need to be able to evaluate where students are affectively and to track their progress, or lack thereof, just as they test and track their cognitive progress. The insights instruments such as the Personal Skills Map<sup>®</sup> can provide are critical and should be integrated

into the overall plan of assessment. Without them, educators and administrators work with only half the picture.

Significant relationships between emotional skills and academic achievement support programs such as JROTC, Future Farmers of America (FFA), DECA, Junior Achievement (JA), and other programs that offer opportunities for skill development, service learning, and leadership. These programs also help students learn about themselves and therefore provide avenues to understand their current level of skills and learning styles. Once students understand their strengths and weaknesses, they can learn to use their strengths while they build weaker skills, thus improving their chances for success.

One way to support such programs when elective credits are so scarce is to offer credit for required courses that are taught in a different way but nonetheless meet the course standards. For example, FFA teaches leadership, civic responsibility, economics, life and work skills, and agricultural career exploration (“National FFA Organization”, 2006). The organization also supports achievement in math, science, and reading. In addition, FFA uses brain-based, student-centered lesson plans that address learning styles and multiple intelligences to keep students engaged and focused.

A review of how this brain-based, student-centered curriculum can meet course standards reveals that credit could be substituted for subjects like leadership, civics, economics, environmental science, life management skills, freshman orientation, career exploration, speech, and other required courses with similar standards. In some cases, students could be allowed to take FFA instead of remedial classes. Students learn math, reading, and science in FFA classes through contextual teaching and learning using inquiry and problem-based methods (Shinn, Briers, Christiansen, Harlin, Lindner, Murphy, Edwards, Parr, & Lawver). This type of

environment would likely keep students from having to take remedial classes by providing them the real life application of their skills. If students fail a core subject, FFA could be a viable alternative to remedial classes.

Likewise, if administrators who host a JROTC program want to fully realize its benefits, they need to actively pursue credit for embedded subjects such as physical education, leadership, health, wellness, life management skills, freshman orientation, speech, government, civics, economics, geography, career exploration, honors, and other related subjects. All students who desired to participate in the program for one year or for all four years could do so with these credit options.

The National Defense Authorization Act for fiscal year 2007 became law on October 17, 2006, amending Title 10, Section 2031, United States Code to recognize each JROTC instructor “as a qualified instructor in leadership, wellness and fitness, civics, and other courses related to the content of the program (“AT&L Knowledge Sharing System”, 2006).” Administrators can cite this law when encountering well intentioned policy makers who question the credentials of JROTC instructors to teach embedded subjects. Like FFA, JROTC teaches using brain-based, student-centered, contextual methodologies which could help those students assigned to remedial classes. Programs like FFA and JROTC offer more than a class.

Students become part of a community where older or more advanced students tutor younger, struggling students in areas they need help. By allowing subjects to be taught within programs like these, school leaders provide students with a support structure, a place where students feel they belong and can contribute to their school and community. Without substitute credit for embedded subjects, fewer students can take advantage of these programs, especially if they have an interest in taking other electives. It seems absurd that students would have to leave

such programs to take a required course in freshman orientation, wellness or civics when they can learn that content sometimes better within the program.

Whether schools have JROTC programs or not, instructional leaders and policy makers must:

1. Emphasize skill development and assessment as an equal companion to academic development and assessment.
2. Find ways of fostering service learning programs and increasing the number of available leadership positions in the school instead of narrowly focusing on covering testable content.
3. Provide continuous professional development to expand student-centered, brain-based teaching practices and include a teacher assessment program to ensure they are used.
4. Champion policies that promote the development of the whole child.
5. Pursue venues such as credit for embedded subjects that help students learn content in different ways.

Data driven research continues to validate the importance of a broader focus in the education of our youth. School administrators, community, state, and federal leaders must find ways to incorporate and actively support a more comprehensive curriculum which incorporates emotional intelligence training via brain-based, student-centered instruction and programs such as JROTC.

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## APPENDIX A. PERSONAL SKILLS MAP

# The Success Profiler™

## Book Three: The Personal Skills Map® Education Version

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### ADMINISTRATION INSTRUCTIONS

#### General Instructions

When filling out the **Personal Skills Map**, there are a few key points to keep in mind . . .

1. The **Personal Skills Map** is part of a positive development approach to assessing and learning essential skills for success.
2. To be of value, personal skills must be understood and practiced. As you fill out the **Personal Skills Map**, claim only those skills you use and practice in actual career/life situations.
3. As you read the descriptions, select those which accurately describe what you regularly do—not those that you could or should do. Be honest; tell the truth.

#### Specific Instructions

1. Use a pencil or ball point pen.
2. Read each item and circle the answer that best applies to you in ONE given area of your life, such as work or school. In part one, answer all items. In each situation treat each response independently of the other two.
3. "M" stands for most of the time, "S" stands for some of the time, and "L" stands for least of the time.
4. Circle the letter and the number for each item. Transfer the number only to the box at the end of the item.

### SCORING INSTRUCTIONS

1. After completing the entire **Personal Skills Map**, add the score values in each column and record the total at the end of each of the four parts of **The Personal Skills Map**. Part One will have 3 scores. Part two will have 3 scores. Part Three will have 5 scores. Part Four will have 3 scores.
2. Transfer the total scores for each skill area to the appropriate place on the profile at the end of **The Personal Skills Map** by placing a large DOT where your score would appear. Use the 'scale scores' and not the standard scores.
3. Assertion will be the first score used. Place this score in the Assertion scale (which is the second from the top). Do this for all of the other scores.
4. Start on the left side of the profile, draw a line from the margin to the dot for each scale and make a bar graph.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

School/Organization: \_\_\_\_\_

## UNDERSTANDING YOUR RESULTS (Personal Skills Map-Long Version and Personal Skills Map-Short Version)

### PROFILING YOUR RESULTS

By darkening in the corresponding raw score totals on each of the fourteen scales shown on the profile sheet, your obtained raw scores are automatically converted to standard scores for interpretation by their position on the profile sheet. You can now see how your scores compare to a general sample in the U.S.

The results that you have plotted on the fourteen scales of the **Personal Skills Map** are your personalized map or guide for you to consider in further developing your personal and career effectiveness. Your personal skills are changeable, and you are capable of life-long learning and positive growth. As you change, develop, and learn new skills, your **Personal Skills Map** profile will be strengthened. Your **Personal Skills Map** scores cannot be accurately thought of as fixed personal “traits” or “factors.” Think of your results as self-descriptions of your current level of personal skills, and focus on your skill strengths. Then consider the skill areas that you want to change and are willing to more fully develop.

The fourteen scales on the **Personal Skills Map** can be related to five major dimensions important in personal and career effectiveness. The first eleven scales of the **Personal Skills Map** are considered personal skills and each scale contributes to the four major skill dimensions. The first major dimension may be thought of as Intrapersonal (by yourself) and includes the Self-Esteem (SE) score. This skill dimension is related to how you evaluate and accept yourself as a person. Research has demonstrated that self-esteem, as measured by the **Personal Skills Map**, is related to personal and career effectiveness.

The second major skill dimension on the **Personal Skills Map** focuses on Interpersonal (with others) skills and how you tend to communicate in stressful situations. This dimension includes the **Personal Skills Map** skill scales of Interpersonal Assertion (IA), Interpersonal Awareness (IAw), and Empathy (E).

The third major dimension focuses on skills that are important in effectively managing your daily environment and demands from your school/work setting. This Career/Life Effectiveness dimension includes the **Personal Skills Map** skill scales of Drive Strength/Motivation (DS), Decision Making, (DM), Time Management (TM), Sales Orientation/Leadership (SO), and Commitment Ethic (CE).

The fourth major dimension on the **Personal Skills Map** is Personal Wellness skills, and includes the Stress Management (SM) and Physical Wellness (PW) scales. This skill dimension is extremely important in both emotional and physical well-being.

The fifth dimension is related to problematic behaviors. **Personal Skills Map** research has clearly indicated that the Interpersonal Aggression (IAg), Interpersonal Deference (ID), and Change Orientation (CO) scales are indicators of problematic behaviors that negatively influence personal mental health and career effectiveness.

### STRENGTHS AND CHANGE MAPS

Your **Personal Skills Map** results have indicated your present level of skill development in key areas of personal and professional effectiveness. You may have identified skill strengths and skill changes that may serve as a map or guide for your future development. The acknowledgement, acceptance, and use of skill strengths are necessary to further realize your potential for personal growth, interpersonal relationships, and career/life effectiveness.

If skill changes were indicated on your **Personal Skills Map** profile, you may want to focus and concentrate personal energy on learning new skills in the areas indicated. You will need to select the areas you need to develop. Each area has a corresponding skill-building unit that you will work on in order to increase your potential effectiveness.

### INTERPRETING YOUR PROFILE

In the section that follows, major **Personal Skills Map** dimensions and scales have been defined, explained, and generally interpreted in terms of perceived strengths or change areas. Once you are aware of your skill strengths and have identified areas for change, you can develop a personal learning and training plan to improve your personal/career effectiveness.

A standard score at or beyond the value of 60 (top of profile) may be considered a current skill strength. A standard score between 40 and 60 represents an average or expected level of skill development. A standard score below 40 can be thought of as an awareness of a personal need to make changes and learn and develop new skills in that area.

You will soon have a chance to work on some of those skill areas.

### SKILL DIMENSION 1: INTRAPERSONAL SKILLS

**SELF-ESTEEM (SE):** Self-concept, Self-image: Your score on this scale reflects how positively you view your current ways of thinking, feeling, and behaving. A high score (skill to enhance) indicates a healthy personality with a positive sense of self-worth. A low score (skill to develop) indicates a negative evaluation of self and dissatisfaction with ways of thinking and feeling. How you think, feel, and accept yourself as a person is directly related to the other personal skills you have assessed in completing the Personal Skills Map.

#### SELF-ESTEEM

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Frequently experiences self-doubt. Persistent sense of inadequacy and inferiority in relation to the skills and abilities of others. Achievement and performance inhibited by intense lack of self-confidence. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Sometimes feels capable and competent. Self-directed appreciation is inconsistent. Feelings of pride in work and personal life endeavors are gratifying but sporadic. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>Usually feels confident and capable. Experiences high self-regard. Is frequently satisfied with performance level at work and play. Self-perception characterized by a sense of pride and accomplishment. |
|--|--|---|

WHAT THIS MEANS IS (check the appropriate box):

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>There are times when I don't feel good about myself. I'm not always comfortable with the way I'm thinking and relating to other people. I am not achieving as much as I think I can. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Sometimes I feel good about who I am and sometimes I really dislike myself. Basically, I like myself and think I am somebody and that I can make a difference. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>I like who I am and feel confident about my ability to succeed. I think I am more able than the average person. I relate well to others and can take care of myself in most situations. I am proud of myself. I really like myself and the way I am right now and feel that I do make a difference. |
|--|---|---|

### SKILL DIMENSION 2: INTERPERSONAL SKILLS

**INTERPERSONAL ASSERTION (IA):** Your score on this scale indicates your current assessment of how effectively you employ direct, honest, and appropriate expression of thoughts, feelings, and behaviors in your dealings with others. A high score (skill to enhance) indicates that you possess assertive communication skills and have the ability to be direct and honest in communicating with others without violating your rights as a person or the rights of others. A low score (skill to develop) indicates a lack of assertive skills and a tendency toward indirect, self-inhibiting, and self-defeating communication styles. Low assertive skills may lead to giving in to others constantly (Deference).

#### INTERPERSONAL ASSERTION

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Frequently ineffective in communicating desires and ideas to others. Usually acquiesces to others' demands and priorities in decision-making situations. Tends to overreact in stressful interpersonal situations and responds inappropriately. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Will sometimes communicate thoughts and feelings openly and directly. May not always defend a stated position. May avoid participation when discussion becomes heated, even when strong convictions are held. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>Has little difficulty communicating and being understood. Possesses strong negotiation skills. Can exercise persistence in a manner that respects the feelings and needs of all parties. Is adept at orchestrating win-win propositions in negotiating situations. |
|---|--|--|

WHAT THIS MEANS IS (check the appropriate box):

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Sometimes, when people put me down, I don't stand up for myself. When I am angry or feel very strongly about something, I often either clam up or say things I wish I hadn't. I need to learn how to speak up in an appropriate and effective manner. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Sometimes I am direct and straightforward with others under stress, but often I am not. I am not able, at times, to express my feelings or discuss things about which I have strong feelings. More often than not, I think I react appropriately. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>When I am under stress, I understand my feelings and communicate them in a positive, direct, and straightforward way. I can describe my feelings and communicate them to someone else. The other person knows where I stand and understands me. He or she knows I have treated him or her with respect. |
|---|--|---|

## SKILL DIMENSION 2: INTERPERSONAL SKILLS

**INTERPERSONAL AWARENESS (IAw):** Your score on this scale is an indication of your current evaluation of how well you judge appropriate social, emotional, and physical distance in verbal and nonverbal interactions with others. A high score (skill to enhance) on Interpersonal Awareness indicates an ability to express feelings appropriately and spontaneously and to foster mutually comfortable, self-assured, and relaxed communications with others. A low score (skill to develop) on this scale indicates some difficulty in relating comfortably to others, manifested by behavior that is either too reticent or too brash.

### INTERPERSONAL AWARENESS

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**SKILL TO DEVELOP**

Usually ill-at-ease in social situations, especially with strangers. Frequently has a sense of being avoided. Has difficulty initiating conversations. Ruminates over having spoken or acted inappropriately. Often feels isolated.

**SKILL TO STRENGTHEN**

Occasionally enjoys social situations and feels gratified from participation. Has a general sense of social aptitude and is reasonably comfortable in interactions with others. Usually understands when to intervene or limit interpersonal engagement.

**SKILL TO ENHANCE**

Naturally gregarious. Open, honest, and uninhibited with respect to initiating conversation, sharing thoughts and feelings. Skilled collaborator and team player. May exhibit charismatic leadership traits.

WHAT THIS MEANS IS (check the appropriate box):

**SKILL TO DEVELOP**

At times, I am very cautious about making new friends. Sometimes this is a difficult process for me. I often wait and let others make the first move. Sometimes I'm not sure that other people accept me. I need to learn to be more comfortable with myself and sure of my ability to make friends easily.

**SKILL TO STRENGTHEN**

I do alright with people, whether I know them well or not. I'm not at a loss for words. Being friendly and relating to people is not my strongest suit, but it does not hinder me either.

**SKILL TO ENHANCE**

I make friends easily and others like to be around me. I am open and trusting of others. I am friendly and initiate (start) conversation. I express my feelings with others in a comfortable, self-assured way. I like being with people—all kinds of people.

## SKILL DIMENSION 2: INTERPERSONAL SKILLS

**EMPATHY (E):** Sensitivity: Your Empathy score is an indication of how you view your current skill and ability to sense, understand, and accept another person's thoughts, feelings, and behaviors. Empathy is a primary characteristic of skilled communicators. Persons with strong Empathy tend to be sociable, outgoing people. A high score (skill to enhance) on Empathy indicates skill in understanding and sensing what others are saying, feeling, and doing. A low score (skill to develop) may indicate a lack of awareness of how others are trying to communicate their thoughts or emotions.

### EMPATHY

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**SKILL TO DEVELOP**

Emotionally unconnected to other people. Unable to hear and understand another's thoughts and feelings. Poor listening skills. Fails to invite collaboration and trust in interpersonal relationships.

**SKILL TO STRENGTHEN**

Is sometimes confided in by others. Lacks patience when others are speaking. Has some capacity to listen, understand, and give feedback, but such skills are not adequately developed.

**SKILL TO ENHANCE**

Often considered understanding and supportive by others. Listens attentively—giving frequent indication of both hearing and deeply understanding the situation being described. Evokes a high level of trust and security in interpersonal relationships.

WHAT THIS MEANS IS (check the appropriate box):

**SKILL TO DEVELOP**

Sometimes I have a hard time listening to other people. I prefer not to be around people I don't like. I tend not to like people who are different from me. If strong emotions are involved, I can get defensive. I need to learn how to listen to people, how to respect our differences and accept myself and others as we are.

**SKILL TO STRENGTHEN**

I'm not the most sensitive person in the world, but when I work at it I can come to understand what most people are saying and feeling. They seem to know that when they get my attention, I am able to listen well to what they are trying to communicate.

**SKILL TO ENHANCE**

I can really understand other people very well, no matter who they are. I can almost walk in their shoes. My ability to gain acceptance from a wide variety of people is one of my strong suits. And that happens because people feel understood and valued by me—even people who are different from me.

### SKILL DIMENSION 3: CAREER/LIFE SKILLS

**DRIVE STRENGTH/MOTIVATION (DS):** Motivation, Goal Setting: Your score on this skill is an indication of how you view your ability to marshal your energy and motivation toward the accomplishment of personal goals. Persons scoring high (skill to enhance) on Drive Strength appear to share and live by many of the values of self-actualizing people. High Drive Strength appears to be related to high self-regard and inner-directedness. A low score (skill to develop) may indicate difficulty in setting and accomplishing goals, a reluctance to experiment or take risks, and a lack of energy or motivation. Low Drive Strength may lead to an unyielding stance and resistance to a change in direction or an active course of action. An offshoot of low Drive Strength is often a refusal to accept responsibility for one's actions.

#### DRIVE STRENGTH/MOTIVATION

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Lacks energy and enthusiasm. Rarely initiates projects or works independently. Fails to set goals and work steadily toward completion. Has difficulty completing work assignments or keeping commitments. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Can set goals and carry out responsibilities under certain circumstances. Has energy bursts where productivity and resolve are high, but not consistently. Needs strong external motivators to experience full commitment to projects. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>Possesses strong internal motivators. Effectively directs energy and attention to achieve specific goals and objectives. Can manage multiple tasks. Willing to experiment and take risks. Learns from, and is further energized by failure. |
|---|---|---|

WHAT THIS MEANS IS (check the appropriate box):

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Sometimes, I'm not sure where I'm going. I have a tendency to drift without clearly defined goals or plans. If an opportunity comes along, I might consider it or I might not. Sometimes my initiative and energy are low. I need to look more clearly at my dreams, establish some goals, and actively reach for them. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>There is a general sense of direction to where I am going with my life, and I like to make things happen. My attention is generally divided in several directions at once rather than focused on one or two specific things. I feel motivated about my work. I can set goals fairly well. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>I have high energy, and there is no shortage of things that excite me. I can set as well as achieve my goals. I have an ability to focus on what's most important and take action on it. It's like having a one-track mind at that time. I never feel like I'm spinning my wheels. I know where I am going and that feels good. |
|---|--|---|

### SKILL DIMENSION 3: CAREER/LIFE SKILLS

**DECISION MAKING (DM):** Your score on the Decision Making scale of **The Personal Skills Map** indicates your perceived skill in formulating and initiating effective problem-solving procedures. Persons scoring high (skill to enhance) on Decision Making tend to be self-actualizing, assertive, and inner-directed. Good decision-making skills are an important element in mental health. The ability to make decisions is a key ingredient of self-acceptance and positive self-regard. A low score (skill to develop) on this scale indicates a lack of decision-making skills and difficulty in solving problems.

#### DECISION MAKING

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Has difficulty weighing alternatives and arriving at conclusions. Agonizes over choices. Spends an inordinate amount of time on minor as well as major decisions. Requires constant guidance and reassurance from friends or co-workers. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Has some degree of developed skill in data analysis and problem solving. Usually participates in group decision-making processes. Can anticipate some short- and long-term consequences in relation to available choices. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>Possesses an advanced capacity to understand the overall context in which a decision is needed. Is generally self-assured and can apply focused critical thinking skills to deal with a wide variety of situations. Analyzes options and selects an appropriate course of action quickly and efficiently. |
|--|--|---|

WHAT THIS MEANS IS (check the appropriate box):

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>At times I am a procrastinator. I put off making decisions or solving problems. Sometimes other people have found this frustrating. It bothers me at times, too. I need to learn how to be more direct in making decisions and solving problems. I need to see that when I procrastinate, I am, in effect, making a decision to do nothing. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Decision making is not easy for me, but I can usually do it well enough to get what I want. Sometimes I can solve problems effectively and at other times I don't do as well. I'm not very good at analyzing information, but I seem to know the best thing to do in many situations. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>When I get into a bind, I can readily assess the situation and get out of it. I have a process for solving problems that I turn to when necessary. Whether by myself or in groups, I can usually get a handle on options and select from them an action that generally improves things. I am confident in my ability to analyze information and then make a decision. |
|---|--|---|



### SKILL DIMENSION 3: CAREER/LIFE SKILLS

**TIME MANAGEMENT (TM):** This scale is an assessment of your ability to organize and use time to further individual and career goals. A high score (skill to enhance) on Time Management is related to high self-regard, a sensitivity to one's own needs, and perseverance in completing tasks. A low score (skill to develop) may indicate a lack of skill or inability to organize time, difficulty in completing daily tasks, and a tendency to let events control one's actions rather than take charge and fulfill self-imposed commitments.

#### TIME MANAGEMENT

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**SKILL TO DEVELOP**

Does not utilize organizational tools and procedures. Prone to procrastination. Work area may be cluttered and in a constant state of disarray. Is unable to prioritize work, exercise focus, and accomplish tasks systematically.

WHAT THIS MEANS IS (check the appropriate box):

**SKILL TO DEVELOP**

It seems that I never have enough time to get everything done. I spend a lot of time worrying about this. I can work a lot of hours, but somehow, a million different interruptions prevent me from getting the important stuff done. There often seem to be too many loose ends. I need to learn how to plan my time more effectively so that the things that are truly important to me get done.

**SKILL TO STRENGTHEN**

Usually meets deadlines by doing 80% of the work in the last 20% of available time. Practices some proven time-management strategies. Experiences frustration when it is necessary to progress on several tasks simultaneously.

**SKILL TO STRENGTHEN**

Usually, I am on top of what I have to do. At least the important things get done. When I'm hassled, I work a little harder at being organized and pull through it okay. I'm not a super-organized person, but I can be when absolutely necessary. I don't want to spend more than so much energy worrying about unfinished projects.

**SKILL TO ENHANCE**

Plans effectively for use of time. Prioritizes work, manages interruptions, and stays on task without neglecting on-going responsibilities. Regularly applies new techniques and technologies to increase efficiency and performance.

**SKILL TO ENHANCE**

When I have a lot to do, I draw up a plan for myself and follow it. When people try to interrupt, I politely tell them to wait. I use my time effectively, and I feel well-organized most of the time. I do not feel pulled apart in all directions. I avoid procrastinating as much as possible. I schedule my time for learning, thinking, planning, and doing. I continually look for ways to improve my organizational skills.

### SKILL DIMENSION 3: CAREER/LIFE SKILLS

**SALES ORIENTATION/LEADERSHIP (SO):** Leadership, Interpersonal Impact, Persuasiveness: This score reflects your assessment of how well you can influence people and have a positive impact on them. A high score (skill to enhance) indicates self-assured behavior and assertiveness in one's relationships with others. Persons scoring high on this scale may assume leadership of a group and demonstrate enthusiasm, energy, and warmth. A low score (skill to develop) may indicate a perceived inability to have an impact on others or a lack of skill in influencing others. Persons scoring low on this scale may be unable to see themselves as having a positive influence on others and may be uncomfortable or timorous in their approach to others.

#### SALES ORIENTATION/LEADERSHIP

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**SKILL TO DEVELOP**

Has difficulty getting ideas across. Rarely makes a lasting impression on people in the work environment or other organizational settings. Unable to guide or influence decision-making processes. Frequently changes position on issues. Often caught in contradiction.

WHAT THIS MEANS IS (check the appropriate box):

**SKILL TO DEVELOP**

Sometimes I feel I don't have any say on the way things should go. Often, people don't listen to my good ideas. At times I feel ignored. I need to learn how to develop my ability to influence other people.

**SKILL TO STRENGTHEN**

Occasionally emerges as the lead figure in group and team activities. Has some influence over decisions and actions that impact the work of others. Can sometimes articulate purpose in a way that fosters commitment from others. Usually behaves in accordance with a consistent set of values and beliefs.

**SKILL TO STRENGTHEN**

In groups, my ideas are usually listened to and sometimes they are followed. I am not always the leader, but I don't feel like I'm always the follower either. I have about as much influence on others as I want. I frequently get the things I really want and try for.

**SKILL TO ENHANCE**

Frequently functions in a leadership role. Regularly viewed by others as a role model and standard setter. Facilitates strong commitments through clear and consistent sharing of vision, mission, and values. Leads by example. Encourages and supports others to succeed. Perceived as highly trustworthy.

**SKILL TO ENHANCE**

I am usually acting in a leadership capacity. I am almost always a leader if and when I want to be. I know that I have a lot of influence on other people—on how they think and act. I am told that I am persuasive. Groups tend to go in the direction I suggest. Even when others have better ideas, my ideas are followed.

### SKILL DIMENSION 3: CAREER/LIFE SKILLS

**COMMITMENT ETHIC (CE):** Task Completion: Your score on this scale indicates your perceived skill in your ability to complete projects and job assignments dependably and successfully. Persons scoring high (skill to enhance) on Commitment Ethic tend to be inner-directed and persevering in completing projects regardless of difficulties encountered. These persons trust themselves and are usually perceived by others as being dependable and committed. A low score (skill to develop) indicates a perceived inability or lack of skill in following through to meet responsibilities and commitments. These individuals may have a tendency to take on projects and then let them lapse because of a lack of commitment.

#### COMMITMENT ETHIC

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Rarely stays with a task or project from beginning to end. Has limited sense of connection to organizational goals and purpose. Has difficulty relating immediate tasks to long term benefits. Experiences few internal or external motivational factors. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Has some sense of involvement and feels that work is important and appreciated by others. Usually sticks with tasks and projects to completion. Understands personal role in organizational mission. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>Can always be relied upon to complete work, even when setbacks are encountered. Is internally rewarded when commitments are met. Works effectively under pressure. Has strong sense of belonging and strives for quality as well as quantity. |
|---|---|---|

WHAT THIS MEANS IS (check the appropriate box):

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>I often find myself feeling tired in the middle of a project. If the project becomes more difficult, I just feel that much more exhausted. I would like to deliver better than I do. I tend to leave things until it's too late. I need to learn how to keep my energy flowing in the middle of any difficult task so that I can finish it in the most effective and efficient manner. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>In general, I am dependable. I can be counted on even though I am not a marathon person. Sometimes I jump from one thing to the next and afterwards wish I had stayed to the end to get the reward I had worked for. If something is important, I finish it; but on other things, I procrastinate. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>I complete projects no matter what and my word is good. If I say, "I'll do it", I'll do it, no matter what. I'm durable, and I'm there for the duration. It may not be perfect, but it'll be done, even if I have to work all night to finish it. My commitment has no exceptions. |
|--|---|--|

### SKILL DIMENSION 4: PERSONAL WELLNESS SKILLS

**STRESS MANAGEMENT (SM):** Your score on this scale reflects your perceived skill in managing stress and anxiety. A high score (skill to enhance) indicates that you have developed skills for managing stress positively. Persons scoring high on Stress Management are competent managers of time, flexible, self-assured, stable, and self-reliant. Good Stress Management skills are essential to creative and healthful living and are a key element of a healthy personality. A low score (skill to develop) indicates an inability or lack of skill in dealing with stress. Extremely low stress management skills may result in negative reactions to life stress with behavioral patterns and habits that may be psychologically or physically self-destructive. Eating and sleep disturbances and physical symptoms such as persistent headaches, digestive problems, and hypertension are negative reactions to life stress and the results of stress skill deficits.

#### STRESS MANAGEMENT

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Often experiences physiological symptoms such as anxiety, hypertension, headaches, digestive problems, and insomnia. Life style includes few opportunities for relaxation. Does not enjoy work. Behaviors reflect impatience towards others. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>Is usually comfortable and easy going around classmates/co-workers. Has non-destructive outlets for revitalizing self and relief of tension. Confronts pressure with reasonable stability. Experiences limited instances of irritability and tension. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>Consistently enjoys a healthy and productive life style. Incorporates a wide array of self-nurturing and growth activities. Experiences few physical problems. Viewed as steadfast and calm in crisis situations. Always approachable by others. |
|--|--|--|

WHAT THIS MEANS IS (check the appropriate box):

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> <b>SKILL TO DEVELOP</b><br>Sometimes, I feel overwhelmed and not in control. This creates stress which only increases my feelings of anxiety in the face of everything that needs to get done. I just don't see when I'm going to get time to relax. I need to learn how to relax in the middle of all the anxiety. I need to learn how to use the tension creatively to boost my energy so that I can accomplish whatever comes my way. | <input type="checkbox"/> <b>SKILL TO STRENGTHEN</b><br>I have a lot of stress right now, but I can't say it gets me down. I usually am on top of it. I reserve some stress-free moments to refresh myself. I could manage myself better than I do, but I'm not doing badly either. | <input type="checkbox"/> <b>SKILL TO ENHANCE</b><br>I manage my life well. I work hard, but don't feel under more stress than I want. I feel satisfied and in charge of myself. I enjoy some tension, and it never gets me down. I have learned to relax and do it. When stressful situations occur, I know they will end. In fact, some stress keeps me sharp. |
|---|--|---|

#### SKILL DIMENSION 4: PERSONAL WELLNESS SKILLS

**PHYSICAL WELLNESS (PW):** Your score on this Personal Skills Map scale reflects the extent to which you have currently developed healthy attitudes and living patterns that are important to your physical health and well being. Physical Wellness is closely related to positive stress management and self-esteem as measured by the Personal Skills Map. A high score (skill to enhance) on this scale indicates that you see yourself as a person who has developed healthy self-control of potentially harmful behavior patterns and who is currently physically healthy. A low score (skill to develop) indicates perceived problematic behaviors and the awareness of a personal need to further develop life skills that are important to physical and emotional health.

##### PHYSICAL WELLNESS

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**SKILL TO DEVELOP**

Lacks appreciation and understanding of the importance of taking care of the physical self. Never exercises, possesses problematic behaviors related to maintaining a healthy life style. Possesses no control over self-destructive behaviors.

**SKILL TO STRENGTHEN**

Sometimes demonstrates a healthy attitude toward taking care of the physical self. Can demonstrate some self-control over self-destructive behaviors. Sometimes exercises.

**SKILL TO ENHANCE**

Demonstrates a healthy attitude toward taking care of the physical self. Exercises regularly. Possesses self-control of potentially harmful behavior patterns. Has control over personal emotions and is physically healthy.

WHAT THIS MEANS IS (check the appropriate box):

**SKILL TO DEVELOP**

I do not take care of myself. At times, I feel that it is hopeless, and don't really care what happens to me. I have little control over my self-destructive behavior. I know that for a person my age I am not in great shape. I need to learn to take better care of myself.

**SKILL TO STRENGTHEN**

I can sometimes do the things that are necessary to maintain my health. At times I see myself as leading a good and healthy life. I am also aware that at times I just don't care to take care of myself. I know I can do better, but I'm doing OK for now.

**SKILL TO ENHANCE**

I take care of my physical self every day. I exercise daily, I eat the right foods and get plenty of rest. I can easily avoid potentially harmful behaviors all the time. I am in control of my emotions and my physical health.

#### SKILL DIMENSION 5: PROBLEMATIC BEHAVIOR

**YOUR INTERPERSONAL COMMUNICATION MAP:** How effectively you communicate with others is an important element in effective interpersonal relationships. The communication styles of Interpersonal Assertion (IA), Aggression (IAg), and Deference (ID) identify your primary and secondary communication styles. Interpersonal Assertion is manifested in direct, honest, and appropriate communication of thoughts and feeling to others. Note: The score for Interpersonal Assertion is found in SKILL DIMENSION II: INTERPERSONAL SKILLS. Interpersonal Aggression and Interpersonal Deference are negatively correlated to the other skills on the Personal Map. High scores on these skills may indicate self-defeating communication styles.

**UNDERSTANDING YOUR COMMUNICATION STYLE:** Most persons use all three communication styles (assertion, aggression, and deference) to some extent in all their communications with others. Your highest score on these three scales indicates your primary communication style, and the next highest score indicates your secondary style.

If your highest score is in Assertion, that is your primary interpersonal communication style. That is, you employ direct, honest, and appropriate expression of thoughts, feelings, and behaviors in communication with others. A high (primary) score on either Aggression or Deference may indicate a lack of communication skills or the need to adjust them. An effective assertion style is important for a healthy personality. An excess of either aggression or deference in interpersonal communication negatively impacts on all the other personal skills and gives rise to self-defeating behaviors.

#### SKILL DIMENSION 5: PROBLEMATIC BEHAVIOR

**INTERPERSONAL AGGRESSION (IAG):** A measurement of the degree to which an individual employs a personal communication style that violates, overpowers, dominates, or discredits the other person's rights, thoughts, feelings, or behaviors. A high score on this scale may indicate insensitivity toward others and low self-acceptance expressed by hostile and attacking behaviors in interpersonal exchanges. High Interpersonal Aggression is related to the personality characteristics of rebelliousness, resentment, and oversensitive response to real or imagined affronts.

#### INTERPERSONAL AGGRESSION

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**LOW**

Communication style is positive and forthright. Rarely displays ill-temper or aggressiveness when interacting with others. Experiences positive self-regard and is open and comfortable.

**NORMAL**

Consistently demonstrates self-control in most interpersonal transactions. Tolerates and accommodates diverse perspectives even in an atmosphere of heated controversy.

**HIGH**

Communicates in an offensive manner that violates, discredits, and/or dominates another's thoughts and feelings. Actively avoided by others. Frequently defensive and uncompromising in group processes.

WHAT THIS MEANS IS (check the appropriate box):

**LOW**

I know how to control my temper. When I do get angry, I control my thoughts and words and do not violate the rights of others. When someone is angry with me, I can defuse the situation and calm that person down. I don't come on too strong in social situations. I accept others' views.

**NORMAL**

I sometimes come on a little too strong, but for the most part I can control my statements. I can tolerate and accept other peoples' views most of the time. In order to get my point across, I sometimes get a little pushy. I do try to respect other peoples' views and feelings.

**HIGH**

I always get what I want no matter what the cost to other people. I force my way into conversations and interrupt people. I do not respect the rights of other people. I am often defensive and uncompromising with others.

#### SKILL DIMENSION 5: PROBLEMATIC BEHAVIOR

**INTERPERSONAL DEFERENCE (ID):** A measurement of the degree to which an individual employs a personal communication style that is indirect, self-inhibiting, self-denying, and ineffectual for the accurate expression of thoughts, feelings, and behaviors. A high score on this scale may indicate a lack of skill in interpersonal dealings and difficulty in standing up to others. High Interpersonal Deference is related to the personality characteristics of apprehensiveness, shyness, and over-sensitivity to threat or conflict.

#### INTERPERSONAL DEFERENCE

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**LOW**

Predominantly self-assured, confident, and direct in interpersonal transactions. Has little difficulty defending positions on issues and adhering to personal principles and values.

**NORMAL**

Comfortable and forthright in most interactions with individuals and groups. Usually assertive and persistent in a respectful and professional manner. Will generally strive to find mutually acceptable solutions in conflictive situations.

**HIGH**

Frequently apprehensive and timid in dealings with others. Unable to articulate a position and usually concedes defeat when interests conflict. Self-denying and overly sensitive.

WHAT THIS MEANS IS (check the appropriate box):

**LOW**

I can defend my positions easily. I do not let people walk over me. I feel comfortable in initiating conversations with others. I feel comfortable imposing on others when I need to. When someone asks me to do something I don't want to, I feel comfortable saying "no" to them. When someone is angry with me, I can calmly state my reasons for my actions.

**NORMAL**

Sometimes I can defend my positions. When I am angry with someone, I am usually calm and relaxed and express myself. Most of the time I feel comfortable in initiating conversations with others. Most of the time I can get what I want without having to back down on my demands.

**HIGH**

I can never defend my position. I often feel apprehensive, shy, and timid in dealing with others. When in an argument, I usually back down and let the other person win. I often become overly sensitive to others' comments. I usually let others get their way.

## PERSONAL CHANGE ORIENTATION

Your Personal Map and Interpersonal Communication Map chart your current assessment of eleven personal skills and indicate what you perceive as your primary and secondary communication styles. The score on your Personal Change Orientation is an indication of the magnitude of change you perceive as desirable for developing your personal and professional effectiveness.

Research has demonstrated that self-assessed change areas (high scores) on the Interpersonal Aggression (IAg), Interpersonal Deference (ID), and Change Orientation (CO) scales may reflect self-defeating behaviors. Three or more low scores (skills to develop) on any of the eleven Personal Skills Map skills scales, a primary communication style of either Interpersonal Aggression (IAg) or Deference (D), and a high score on Change Orientation (CO), present a definite awareness and recognition of the need for specific training in skill enhancements in order to expand personal skills, improve interpersonal relationships, and promote career/life effectiveness.

**CHANGE ORIENTATION (CO):** Your score on this scale indicates the degree to which you are motivated and ready for change in the skills measured by the Personal Skills Map. Change Orientation is negatively correlated to all personal skill scales except Interpersonal Aggression and Interpersonal Deference. A high score on Change Orientation indicates dissatisfaction with current skills and a strong conviction of the need to make personal changes.

Persons scoring high on this Personal Skills Map scale manifest an awareness and a need for personal change. Feelings of stress, anxiety, and tension regarding current behavior may be characteristic of persons scoring high on this scale. Low scores on Change Orientation indicate satisfaction with current skills and behavior.

## PERSONAL CHANGE ORIENTATION

ACCORDING TO YOUR PERSONAL SKILLS MAP RESULTS, YOU ARE CURRENTLY HERE (check the appropriate box):

**LOW**

Highly satisfied with existing skill levels and behavioral conduct. Confident, self-accepting and possessive of a profound internal sense of personal strength and competence across a wide range of indicators.

**NORMAL**

Generally satisfied with current level of ability and strength in most critical areas. Aware of and actively addressing skill development needs.

**HIGH**

Intensely conscious of skill deficiency in a number of areas crucial for personal success. Frequently ruminates and experiences anxiety over inability to function effectively in many settings. Thoughts and feelings dominated by pessimism.

WHAT THIS MEANS IS (check the appropriate box):

**LOW**

I am satisfied with myself. I don't see the need to make many changes in my behavior because things are going well as they are. I feel comfortable with myself, and I know I am a very competent person who has a lot to give. I am satisfied in the way I perform my work. I am successful at work and in life in general.

**NORMAL**

I know I need to improve in some areas, but for the most part I feel pretty good about myself. I see the need to make a few minor adjustments in my behaviors. I feel pretty good about my ability to handle problems in conflictive situations. I need just a little more work in a few areas, and I will be very successful.

**HIGH**

I know I need to make a lot of changes in my life if I am going to be a successful person. My outlook is poor unless I make the necessary changes.

Part Three—Personal Skills Map				Totals from Previous Page					
160.	M/2	S/1	L/0	When working on a difficult task, I am aware of and try to improve personal weaknesses that may hinder successful task accomplishment . . . . .		<input type="checkbox"/>			
161.	M/2	S/1	L/0	I prefer projects that require an intensive effort or a long-term commitment . . . . .		<input type="checkbox"/>			
162.	M/2	S/1	L/0	When faced with an important decision, I am not overly anxious about making a wrong choice . . . . .					<input type="checkbox"/>
163.	M/2	S/1	L/0	I am an efficient and well-organized person . . . . .				<input type="checkbox"/>	
164.	M/2	S/1	L/0	Because I am a convincing and believable person, friends often ask me to "talk to" someone for them . . . . .	<input type="checkbox"/>				
165.	M/2	S/1	L/0	I am not satisfied with the amount of energy I put into being successful in life . . . . .					<input type="checkbox"/>
166.	M/2	S/1	L/0	Planning activities in advance does not take the fun out of life. . . . .		<input type="checkbox"/>			
167.	M/2	S/1	L/0	I can keep my mind on a task for a long period of time. . . . .		<input type="checkbox"/>			
168.	M/2	S/1	L/0	My decisions are usually accepted as "good" by the persons affected . . . . .				<input type="checkbox"/>	
169.	M/2	S/1	L/0	I am able to manage my time in the present so that I am not pressured by always trying to catch up with things that I have not done in the past. . . . .				<input type="checkbox"/>	
170.	M/2	S/1	L/0	My friends involve me in solving their problems . . . . .	<input type="checkbox"/>				
171.	M/2	S/1	L/0	I am not satisfied with my skill and ability to sell myself to others . . . . .					<input type="checkbox"/>
172.	M/2	S/1	L/0	My tendency is not to give up easily when confronted with a difficult problem . . . . .		<input type="checkbox"/>			
173.	M/2	S/1	L/0	On work projects, I would rather work with an expert in the field than with a friend or someone that I know. . . . .		<input type="checkbox"/>			
174.	M/2	S/1	L/0	My friends often ask for my help in making important decisions . . . . .				<input type="checkbox"/>	
175.	M/2	S/1	L/0	I am among the first to arrive at meetings or events . . . . .				<input type="checkbox"/>	
176.	M/2	S/1	L/0	I am a good salesperson . . . . .	<input type="checkbox"/>				
177.	M/2	S/1	L/0	I am not satisfied with my decision-making ability . . . . .					<input type="checkbox"/>
178.	M/2	S/1	L/0	I have the ability to stick to a job even when I do not feel like it. . . . .		<input type="checkbox"/>			
179.	M/2	S/1	L/0	I finish things that I start. . . . .		<input type="checkbox"/>			
<i>(add all five columns and carry to next page)</i>									

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Part Three—Personal Skills Map				Totals from Previous Page				
180.	M/2	S/1	L/0	I am able to be decisive when a stressful situation calls for an immediate decision and action . . . . .				
181.	M/2	S/1	L/0	I keep my appointments on time . . . . .				
182.	M/2	S/1	L/0	I am able to talk people who are having an argument into solving their problems . . . . .				
183.	M/2	S/1	L/0	One of the things that I need to change most is the way that I relate to other people . . . . .				
184.	M/2	S/1	L/0	I am able to set priorities and meet objectives effectively. . . . .				
185.	M/2	S/1	L/0	I have more than enough energy to get me through the day . . . . .				
186.	M/2	S/1	L/0	I seldom regret the decisions that I have made . . . . .				
187.	M/2	S/1	L/0	I am able to effectively work on several projects at the same time with good results . . . . .				
188.	M/2	S/1	L/0	I seem able to "sell myself" to authority figures just by being myself. . . . .				
189.	M/2	S/1	L/0	I am not satisfied with the way I handle my relationships. . . . .				
190.	M/2	S/1	L/0	I am an achiever. . . . .				
191.	M/2	S/1	L/0	I have a strong desire to be a success in the things that I set out to do. . . . .				
192.	M/2	S/1	L/0	I make decisions easily and with good results. . . . .				
193.	M/2	S/1	L/0	I have the ability to control my responsibilities rather than being controlled by them . . . . .				
194.	M/0	S/1	L/2	I am unable to put others at ease in tense situations . . . . .				
195.	M/2	S/1	L/0	One of the things I need to change most is how I physically take care of my body . . . . .				
196.	M/2	S/1	L/0	When I begin a difficult task, I am motivated more by the thought of success than by the thought of failure . . . . .				
Totals for Part Three (Transfer to Personal Map)								
Sales Orientation/Leadership								
Drive Strength/Motivation								
Decision Making								
Time Management								
Change Orientation								

APPENDIX B WINNING COLORS DISCOVER FORM

Exercise 1: Discover your Communication Power

Directions: In this exercise you will determine which of your Winning Colors® are the strongest at the present time: planner, builder, relater, or adventurer. The four parts of self and your power to communicate reside in your ability to exhibit different behaviors in situations. Although everyone is comprised of each of the behaviors in diverse extents, the goal of Winning Colors® is to work to develop a balance between the four colors.

1. Start by numbering the following words or phrases in each item (a, b, c, d) from 1 to 4, moving horizontally across each row in order of importance to you. Number 1 would be the word or phrase that best describes your feelings of comfort and what you like inside – NOT how you would like to be – NOT how you act because of outside forces.
2. Total the vertical columns.
3. Circle the lowest score. Put a box around your second lowest score. Note: The lowest score identifies your present communication POWER or Winning Color. Your boxed score is your backup communication Power.
4. Read the next page of this exercise and then fill in the TREND blanks with the four parts of self that match the words in the column.
5. Next fill in the COLOR blanks with the color that matches the TREND based on the next page.

< 1=Most Important > < 2=Very Important > < 3=Somewhat Important > < 4=Least Important >			
A	B	C	D
Being prepared Rating: _____	Let's all be friends Rating: _____	Developing better and more logical ways Rating: _____	Living today and not worrying about tomorrow Rating: _____
Telling people what they should do Rating: _____	Talking and socializing Rating: _____	Understanding and analyzing about tomorrow Rating: _____	Having fun and excitement with people Rating: _____
< 1=Most Important > < 2=Very Important > < 3=Somewhat Important > < 4=Least Important >			



A	B	C	D
Saving and budgeting Rating: _____	Giving Rating: _____	Creating Rating: _____	Spending Rating: _____
Leading Rating: _____	Relating Rating: _____	Planning Rating: _____	Exploring Rating: _____
Being Organized Rating: _____	Bring loved and accepted Rating: _____	Being correct and competent Rating: _____	Being in spontaneous action Rating: _____
A Total: _____	B Total: _____	C Total: _____	D Total: _____
Trend: _____	Trend: _____	Trend: _____	Trend: _____
Color: _____	Color: _____	Color: _____	Color: _____

Note: Make sure the phrases are numbered and the columns are totaled before going any further.

In the table, fill in the appropriate trend word and corresponding color found below.

- A. Under column A the TREND is Builder and the COLOR is Brown, representing leadership and decisiveness.
- B. Under column B the TREND is Relater and the COLOR is Blue, showing openness and feeling.
- C. Under column C the TREND is Planner and the COLOR is Green, containing deep, hidden, changing currents.
- D. Under column D the TREND is Adventurer and the COLOR is Red, producing excitement, action and fun.

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