

# The Relationship of Emotional Intelligence to Academic Achievement

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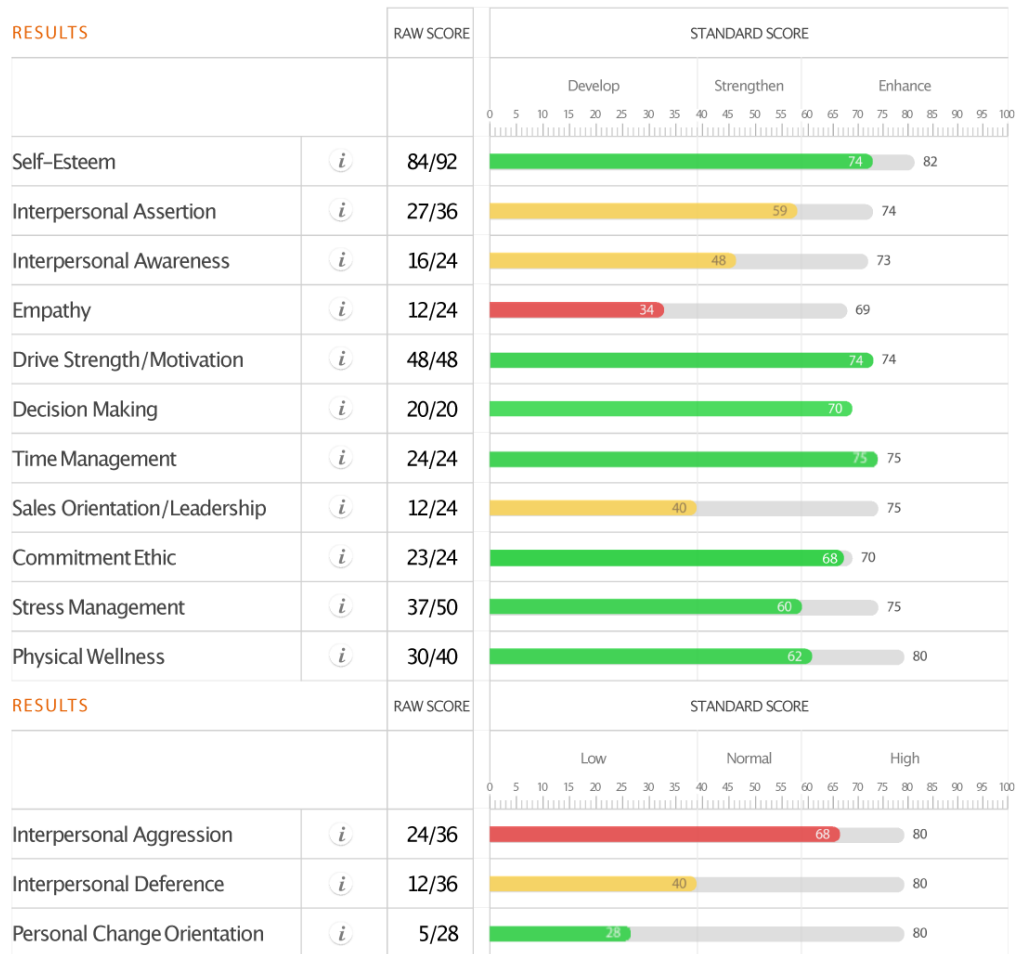
**Abstract:** Higher levels of emotional intelligence built through electives like Army JROTC are predictive of higher levels of academic achievement. This quantitative correlational study was conducted to explore the relationship of the grade point averages of a random sample of 486 Army Junior Reserve Officers' Training Corps high school cadets to levels of emotional intelligence as measured by The Personal Skills Map<sup>®</sup>. Research findings were that 10 of 11 emotional intelligence skills were significantly correlated with higher grade point averages. Dewey's pragmatism and Plato's idealism, which support the premise of the need for programs that help students interact with their environment and bring out their best, served as the theoretical framework for the study. Implications for education are that elective programs that support personal growth and learning life skills are as important as academic skills.

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## Introduction

Despite laws designed to improve the quality of education such as the *No Child Left Behind (NCLB) Act of 2001* and the *Every Student Succeeds Act (ESSA) of 2015*, academic achievement remains elusive.

Though most would agree covering content will not solve the problem, they do not agree on what will. Whereas some administrators require advanced and remedial classes at the expense of electives, others believe that electives, like the Junior Reserve Officers' Training Corps (JROTC), keep students in school, and these administrators are less inclined to remove opportunities for students to be involved in them (Blake, 2016).

Despite research that indicates a positive climate contributes to academic achievement (Berkowitz, Moore, Astor, Benbenishty, & Benbenishty, 2017), the pressure caused by high-stakes testing makes scheduling decisions difficult for administrators.

Paradoxically, raising requirements at the national and state level in core subjects (Tampio, 2017) and eliminating classes that support the prosocial aspects of student development can reduce the effectiveness of education (Corrigan, Higgins-D'Alessandro, & Brown, 2013). Schools should be places where teachers help students develop not only academically but also as humans (Tomlinson, 2015). In this study, the relationship between emotional intelligence (EQ) with academic achievement is examined. Emotional intelligence encompasses personal and human development built through prosocial activities, such as teamwork, in JROTC.

Since the study occurs within the context of Army 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, responsibility, a sense of

accomplishment, and service to the United States (Junior Reserve Officers' Training Corps Act of 1964, 2008) while instilling in them decision-making skills that promote their social, emotional, and physical health ("U.S. Army JROTC," 2018). The mission statement, *To Motivate Young People to be Better Citizens*, reflects the program's post-graduate focus. Approximately 314,000 Army JROTC cadets and over 4,000 instructors work and learn together in over 1700 schools. When adding other service JROTC units, those numbers nearly double. Many JROTC units are located in high schools in inner cities and rural areas where students are underserved (Perma & Mehay, 2009), 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 ("U.S. Army JROTC," 2018). 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 21<sup>st</sup>-century 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.

Theoretical Framework: Research Question

Public education is in crisis today. 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. With

states scrambling to meet or exceed legal requirements, 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. Despite the decades of increasing emphasis on test scores; however, the United States has made little progress in academic achievement (Corrigan, 2012). 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 or advanced placement courses (which confer grade point averages beyond 4.0). A number of these students who want leadership experience cannot take regular classes, much less electives, because they need honors or advance placement credit to be competitive. Thus, they miss a good opportunity to develop the life skills that will help them navigate through their relationships, college, a career, and life in general.

Meanwhile, many elective courses motivate students to stay in school either through offering a specialty or an outlet. Ironically, the students not motivated to achieve in school are often those who cannot take electives because they must take remedial classes. Meaningful data that link EQ to achievement may help to inform decision makers to keep elective programs that build soft skills in the school schedule. 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.

To better assess this linkage, this study focused on exploring the relationship between levels of EQ and levels of achievement. Specifically, the question addressed in this research was as follows: *Is there a relationship between emotional intelligence and academic achievement in JROTC?* The theoretical framework of Dewey's pragmatism (students need to interact with their environment to learn; Heilig, Cole, & Aguilar, 2010) and Plato's idealism (that the aim of education is to bring out the best in students to better serve society; Joyal, 2016) supported this question. The theory explored in relation to EQ remains elusive as major theorists in the field do not agree. This lack of clarity has contributed to the difficulty in understanding how EQ relates to educational achievement (Perera, 2016).

#### Significance of the Problem

Continued research on the importance of educating the whole child could help to convince school officials that electives are important (Davila, 2014), and that a fight to save them now will be easier than trying to reinstate them once they are gone. Substituting credit for the subjects and activities in JROTC (e.g. health, wellness, physical fitness) allows more options for students to enroll. Either way, action as opposed to apathy is imperative if these types of elective courses are to survive. Administrators need ammunition to reverse the trend toward eliminating electives and to amend unwieldy policies that severely restrict them. Marzano (2003), Caine and Caine (1991), Goleman (1995), Gardner (1993), Bar-On (1997), Mayer and Salovey (1990), and many other prominent researchers have created a foundation that supports varied instructional strategies, tying learning to emotion, and the importance of EQ. 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.

Army JROTC has 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 employs proven instructional strategies. In following a Vietnamese refugee’s experiences in JROTC, Davila (2014) suggested that attendance in JROTC can provide a sense of belonging and hope for the future that keeps even low-achieving students in school. Yet students, often those who need it the most, cannot always fit JROTC in their schedule. Other programs, such as Future Farmers of America (FFA), Distributive Education Clubs of America (DECA), Family, Career, and Community Leaders of America (FCCLA), Future Business Leaders of America (FBLA), and Junior Achievement (JA), that also offer opportunities for skill, character, and leadership development (Rice, 2011) also take a back seat to core academics. These programs help students learn about themselves and, therefore, provide avenues to understand their skill levels. Logically, 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 (Neilson, 2005). Another benefit of JROTC (and programs like it) is it offers

students an opportunity for local, and sometimes national recognition—as Charlie Daniels commented, for what is *good* about America (Perez, 2015).

#### Methodology

In 1976 Nelson and Low (2003) created the instrument used to measure EQ, the Personal Skills Map<sup>®</sup>, which was later digitized and embedded in Conover Company’s Success Profiler<sup>®</sup> (Schmitz, 2005). To explore relationships between EQ and academic achievement in this quantitative study, scores on 11 personal skills (the predictor variables) were correlated with corresponding grade point averages (the criterion variables). The existing data included scores, grades, and demographics from a sample of 486 cadets in grades 9-12 located in different schools with diverse populations across the country. Demographics were: 21% Caucasian, 24% African American, 26% Hispanic, 16% Native American, 5% Alaskan, and 8% Asian. Approximately 48% of the cadets were male and 52% female. Data collected were displayed on graphs generated by SPSS software. Bivariate correlation statistics were used to compare the predictor variables with the criterion variables (Mirabella, 2006).

#### Results

In addition to displaying descriptive statistics, Table 1 illustrates that the test distributions were normal.

Table 1

#### *Descriptive Statistics, Significance, and Test Normality*

Variable	Mean	Stand Dev	Min	Max	Ass/2 tail	Test Distribution
GPA	2.8	.765	.50	4.30	.08	Normal
Commi Ethic	16.3	4.7	2	24	.001	Normal
Drive Strength	29	9	2	47	.092	Normal
Decision Mak	12.2	3.7	1	20	.005	Normal

Empathy	17.3	5.2	2	24	.000	Normal
Awareness	16.4	4.7	1	24	.002	Normal
Physical Well	22.5	7.3	2	40	.001	Normal
Sales Orient	14.9	4.7	1	24	.003	Normal
Self Esteem	54.5	16.9	6	87	.000	Normal
Stress Mgt	24.5	9.8	1	48	.035	Normal
Time Mgt	13.9	4.7	1	24	.001	Normal
Assertion	23.8	6.7	1	36	.082	Normal
Aggression	13	7.4	1	36	.000	Normal
Deference	15.7	7.3	1	36	.032	Normal

For the research question: Was there a relationship between emotional intelligence and academic achievement in JROTC, the null hypothesis was rejected on 10 of the 11 EQ scales. To investigate the first hypothesis, a correlation analysis was

administered using SPSS software on each scale. Table 2 illustrates the results of the Pearson Correlation. In order to sufficiently address this question, each of the eleven scales must be analyzed as separate sub-hypotheses.

Table 2

*Pearson Correlation for Emotional Intelligence Variables and GPA*

Variables Academic Achievement (GPA)

Cadets (n = 486)		
EQ Variables	r	sig (2 tail)
Commitment Ethic	.234**	.000
Drive Strength	.219**	.000
Decision Making	.128**	.005
Empathy	.126**	.005
Awareness	.070	.125
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

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

# Research Data

## R = Correlation Coefficient

RESULTS		STANDARD SCORE	
		Develop	Strengthen Enhance
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100	
Self-Esteem	<i>i</i>	<b>Self-Esteem (SE) – R for SE is .172,</b> as SE increases, academic achievement increases	
Interpersonal Assertion	<i>i</i>	<b>Interpersonal Assertion (IA) – R for IA is .131,</b> as IA increases, academic achievement increases	
Interpersonal Awareness	<i>i</i>	<b>Interpersonal Awareness (IAw) – R for IAw is only .070,</b> academic achievement may not increase as IAw	
Empathy	<i>i</i>	<b>Empathy (E) – R for E is .128,</b> as empathy increases, academic achievement increases	
Drive Strength/Motivation	<i>i</i>	<b>Drive Strength (DS) – R for DS is .219,</b> as DS increases, academic achievement increases	
Decision Making	<i>i</i>	<b>Decision Making (DM) – R for DM is .128,</b> as DM increases, academic achievement increases	
Time Management	<i>i</i>	<b>Time Management (TM) – R for TM is .196,</b> as TM increases, academic achievement increases	
Sales Orientation/Leadership	<i>i</i>	<b>Sales Orientation/Leadership (SO) – R for SO is .147,</b> as SO increases, academic achievement increases	
Commitment Ethic	<i>i</i>	<b>Commitment Ethic (CE) – R for CE is .234,</b> as CE increases, academic achievement increases	
Stress Management	<i>i</i>	<b>Stress Management (SM) – R for SM is .128,</b> as SM increases, academic achievement increases	
Physical Wellness	<i>i</i>	<b>Physical Wellness (PW) – R for PW is .109,</b> as PW increases, academic achievement increases	
RESULTS		STANDARD SCORE	
		Low	Normal High
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100	
Interpersonal Aggression	<i>i</i>	<b>Interpersonal Aggression (IAg) –</b> IAg has a reverse correlation to IA	
Interpersonal Deference	<i>i</i>	<b>Interpersonal Deference (ID) –</b> ID has a reverse correlation to IA	
Personal Change Orientation	<i>i</i>	<b>Personal Change Orientation (PCO) –</b> PCO is how satisfied one is with their present set of skills	

The results of this study help to validate the importance of developing the whole person to increase academic achievement.

A narrative of the results are as follows:

- 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 is rejected; thus, I 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.

- 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 is rejected; thus, I concluded that a correlation exists between drive strength and grade point average. Since the R for DS is .219, as drive strength increases, academic achievement increases as well.

- 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 is rejected; thus, I 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.

- 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 is rejected; thus, I 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.

- 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 is accepted; thus, I 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.

- 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 is rejected; thus, I 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.

- Sales Orientation/Leadership (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 is rejected; thus, I 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.

- 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 is rejected; thus, I 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.

- 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 is rejected; thus, I 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.

- 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 is rejected; thus, I 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.

- 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 is rejected; thus, I 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.

Though no hypotheses were tendered for IA subscales, the relationships were explored: ID is a personal communication style which is indirect, self-inhibiting, self-denying, and ineffectual for the accurate expression of thoughts, feelings, and behaviors; IAg is a personal communication style that violates, overpowers, dominates, or discredits the other person's rights, thoughts, feelings, or behaviors. 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 correlation does exist between aggression and grade point average. With an R of -.144, as aggression increases, academic achievement decreases. Of the 11 scales, only Interpersonal Awareness was not significantly correlated. Since this scale has been found to be significantly correlated in other studies (Pope, 1981), perhaps further research with different samples is in order.

#### Conclusions and Implications

The results of this study help to validate the importance of developing the whole person to increase academic achievement through elective courses. School leaders could add this study to the growing body of research with similar findings to support a focus on building personal skills, understanding learning styles, and allowing opportunities for as many students as possible to participate in prosocial experiences. Assessments like the Personal Skills Map<sup>®</sup> help students to be aware of strengths and weaknesses that could help them to make changes resulting in higher grades. Many elective programs take that awareness further by helping students to improve their EQ.

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. Though academic achievement is often the stated goal, it is not attained by merely teaching required subjects. Theorists including 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 should be a priority (Kessler, 2000).

#### Implications for Further Study

Further research should include links of service learning, leadership, and locus of control to emotional intelligence in secondary schools. Efforts to achieve consensus in the emotional intelligence community should be monitored and included in that research. Future studies confirming or disputing these results are important to policy makers who mandate

education requirements including how schools are resourced based on test scores and to education administrators charged with making scheduling decisions. Further research exploring emotional barriers to academic achievement could help with those policy and scheduling decisions. Additional studies with like results will add to this evidence that character development and leadership programs like JROTC build emotional intelligence and result in higher achievement.

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