

EXPLORING RELATIONSHIPS BETWEEN TRAIT EMOTIONAL INTELLIGENCE,  
ACADEMIC COLLEGE READINESS, AND FIRST-YEAR STUDENT SUCCESS

by

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## ABSTRACT

College readiness for America's high school students has captured the attention of community college leaders to stimulate enrollment and attend to the national college completion agenda. In many college settings, college readiness is measured solely on academic readiness using tools such as standardized tests or high school performance. However, little research has been conducted to explore potential connections between trait emotional intelligence and a first-year student's demonstrated college readiness through success during the first semester of college. Emotional intelligence is a non-cognitive trait that can be taught and if proved to be significantly correlated to college readiness and college success, could open the door for new college readiness high school interventions or improved college entrance standards. In a quantitative study, the correlation between trait emotional intelligence and first college semester student success including success in English and/or mathematics courses is researched at a Chicago suburban community college. The research findings did not support the stated hypotheses but provided interesting insight into first semester student success and potential directions for future college readiness research.

Key Words: trait emotional intelligence, college readiness, student success

## DEDICATION

To Chris, Emma, and Evan

Your encouragement, love, and support make me a better wife, mom, and scholar.

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## TABLE OF CONTENTS

	Page
ABSTRACT.....	i
LIST OF TABLES.....	vii
CHAPTER ONE: INTRODUCTION .....	1
Introduction .....	1
Purpose of the Research .....	6
Significance of the Study .....	7
Research Questions.....	7
Definition of Terms.....	9
Summary of Chapters.....	10
CHAPTER TWO: LITERATURE REVIEW .....	12
Introduction: Community College History and Purpose.....	12
College Readiness.....	14
Additional College Readiness Frameworks .....	17
First-Year Student Success and Completion.....	20
Emotional Intelligence.....	25
Ability-Based Emotional Intelligence.....	26
Trait Emotional Intelligence .....	27
Emotional Intelligence Theories in Relation to Traditional-aged College Students .....	28
Community College Placement Practices .....	31
Current College Readiness Standards at Elgin Community College .....	32
Conclusion .....	34
CHAPTER THREE: METHODOLOGY .....	36
Introduction .....	36
Research Problem .....	37
Research Questions.....	38
Correlation Analysis .....	38
Multiple Regression Analysis.....	39
Research Design .....	39
Overview to the Study.....	39
Subjects .....	40
Relationship Study Methodology .....	42
Sampling.....	43
Data Collection Process and Protocols .....	44
Invitation and Instrument .....	44



Additional College Data.....	44
Limitations of the Study .....	45
Delimitations of the Study.....	45
Validity and Reliability.....	46
Data Analysis .....	47
Conclusion .....	48
CHAPTER FOUR: FINDINGS, RESULTS, AND ANALYSIS.....	50
Introduction .....	50
Research Questions.....	51
Correlation Analysis .....	51
Multiple Regression Analysis.....	52
Data Analysis Methology.....	52
Descriptive Statistics .....	53
Student Participant Demographics .....	55
Research Study Findings.....	56
Research Question #1 .....	57
Research Question #2 .....	58
Research Question #4 .....	62
Analysis and Implications of the Results .....	62
Research Question #1 .....	62
Research Question #2 .....	63
Question #3.....	63
Research Question #4 .....	64
Sample Size and Comparison to Non-Participants .....	65
Conclusion .....	67
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS .....	69
Introduction .....	69
Contribution to the Research.....	71
Understanding of the Findings .....	73
Finding #1.....	74
Results #2 .....	75
Finding #3.....	77
Recommendations for Future Research.....	78
Conclusion .....	80
REFERENCES .....	82
APPENDIX A: IRB APPROVAL LETTERS .....	89
APPENDIX B: EMAIL INVITATION, ONLINE SURVEY, AND INFORMED CONSENT.....	92
APPENDIX C: RESEARCH DATA .....	101

## LIST OF TABLES

	page
Table 1: David Conley’s Four Keys of College and Career Readiness .....	15
Table 2: Test Scores for Minimum Competency at ECC, Fall 2018.....	32
Table 3: Illinois Community College Placement Framework .....	34
Table 4: Data Collection Timeline and Protocol .....	41
Table 5: Student Groups and Timeline .....	42
Table 6: Descriptive Statistics of Final Fall 2018 Grade Point Average, Fall 2018 English Course Grades and Fall 2018 English Course Grades .....	54
Table 7: Descriptive Statistics of the Trait Emotional Intelligence Levels Reported by Student Respondents .....	54
Table 8: Pearson r Correlation Between Trait Emotional Intelligence Factors and Fall 2018 Cumulative GPA .....	58
Table 9: Pearson Correlation Between Trait Emotional Intelligence Factors and Fall 2018 English Course Grade Variable Group .....	60
Table 10. Pearson Correlation Between Trait Emotional Intelligence Factors and Fall 2018 Mathematics Grade Variable Group .....	61
Table 11: Linear Regression Computer with Dependent Variable of Fall 2018 GPA and Independent Variables of Trait Emotional Intelligence Levels.....	62
Table 12: T-test Between Participant and Non-Participant Means – Fall 2018 GPA.....	66
Table 13: T-test Between Participant and Non-Participant Means – Fall 2018 English Course Grade.....	66
Table 14. T-test Between Participant and Non-Participant Means – Fall 2018 Mathematics Course Grade.....	67

## CHAPTER ONE: INTRODUCTION

### **Introduction**

At the turn of the 20th century, higher education leaders began to establish community colleges with multiple purposes in mind. Community colleges became educational institutions where the freshman and sophomore students could begin their college experience, could enroll in general education courses, or could complete vocational training for students looking to gain swift employment (Cohen, Brawer, & Kisker, 2014). Additionally, community colleges offered an affordable option for students who lacked the familial or cultural support for further education or did not develop the academic skills necessary to matriculate from high school to a university. Over time, community colleges have responded to the vastly growing need for a skilled workforce by developing pathways and short-term training for those seeking gainful employment (American Association of Community Colleges, 2012). More recently, community colleges have needed to be agile in their program offerings, student support services, and overall structure to respond to a variety of students' needs, societal challenges, and rising costs of education with decreased funding from state governments (Cohen et al., 2012).

One area of educational innovation over the past several decades has focused on preparing all high school students for postsecondary education. Making college accessible to all students has required an increased focus on accurately defining college ready skills and improved strategies to develop those skills in all students. College readiness is defined as a student who is deemed ready for college level courses without taking remedial coursework

(Conley D. , 2012). Within college readiness theory, in addition to academic content knowledge, other key components include: study skills, time-management skills, persistence, ownership of learning, problem solving, critical thinking, and communication (McGaughy & Venezia, 2015).

Currently, students are mainly assessed for college readiness through academic content measurement tools such as the ACT and College Board's SAT and Accuplacer. According to the College Board (n.d.), the SAT test results are a good measure of a student's college readiness and predictor of college academic results. However, in the context of community college's open-door policy, families and students become confused with the course placement process especially if the student tests into remedial courses despite successfully graduating from high school and passing their courses (McGaughy & Venezia, 2015). In addition, the predictive validity of widely used academic-focused assessments used within community colleges has come under scrutiny and question in the last few years. For example, in 2015, ACT decided to no longer offer the Compass placement test as a college readiness measurement tool (Fain, 2015). This decision was founded in research conducted by ACT where adult students who tested into remedial coursework may have tested college level if a refresher course was taken by the student. Other studies have shown that College Board's Accuplacer alone leads to misplacements that could derail a student's path to college level coursework. In one research study, students who could have been successful in college level coursework but according to the COMPASS or ACCUPLACER test results placed in remedial coursework, was as high as 33% at one urban community college (Scott-Clayton & Stacey, 2015). This Community College Research Center study analyzed students' success in college-level courses despite placing into remedial coursework. The collection of college readiness research has emphasized a recommendation

for K-12 and community college systems to embrace a new look at placement measures such as matching the exam's purpose to the college curriculum and using multiple measures of college readiness (Flory & Sun, 2017).

As community colleges have begun to explore multiple measures to assess college readiness, one area to explore is within with non-cognitive dimensions of readiness. Non-cognitive dimensions include critical thinking skills, emotional health, work ethic, self-control, self-regulation, and communication skills (Garcia, 2014). These non-cognitive components within college readiness overlap with the concept of emotional intelligence (EI). EI is comprised of self-awareness, self-management, social awareness, and relationship management skills (Bradberry & Greaves, 2009). These EI skills are associated with a student's ability to handle stress in a new college environment, envelope themselves in new social groups, and manage conflict in a new academic setting. All of this is critical to a student's overall academic success as evidenced at many community colleges across the nation that have developed high-impact student success programs (Center for Community College Student Engagement, 2014).

This quantitative research study analyzes the relationship between recent high school graduates' trait emotional intelligence levels, and the students' success in their first term of college as measured using their final first semester academic grade point average earned and their final grades in mathematics and/or English during the first semester. Despite numerous students lacking the complex academic and emotional preparedness for post-secondary education, the current common practice in higher education is to only assess a student's college readiness through cognitive, academic-based assessments (American Association of Community Colleges, 2014). Understanding potential relationships between EI, assessed

academic readiness and first term success can provide useful statistical analysis for the development of supplemental readiness standards for college course placement or for high school college readiness interventions. This research is conducted through the lens of five context areas: community college history, college readiness, college student success and completion, emotional intelligence, and placement measures. Each of these areas frame this research study with the intention to be meaningful for community college leaders as they analyze and possibly modify current college readiness assessment practices.

Community colleges began in the early 20<sup>th</sup> century in response to the increasing high school graduation rates and prominent educators advocating for a junior college model for young college students. This movement was operationalized through extensions of secondary education and producing skilled laborers for local employers. Through the 1950s and 1960s, the expansion of community colleges grew rapidly across the United States providing opportunities for returning WWII veterans and the upcoming Baby Boomers (Bailey, Jaggars, & Davis, 2015). The original mission of community colleges was for all United States citizens to be able to reach their potential by pursuing higher education and this student success focus remains today (Cohen et al., 2014).

In the second context, college readiness remains an important concern because of the community college's open-door access policy. Young students pursuing college following their high school graduation require key academic and nonacademic knowledge and skills to be successful in college (McGaughy & Venezia, 2015). Additionally, young college students are faced with challenging circumstances where their academic placement test results or their high school academic performance defines their placement into college level coursework. If leaving

high school underprepared, students may find themselves in multiple remedial courses and struggling to pass courses which lessen their overall chances for completion (Center for Community College Student Engagement, 2016).

Third, the national conversation and research regarding student success and completion has carried on for over ten years. For example, in 2004, the Lumina Foundation along with founding partners funded the Achieving the Dream initiative to focus on evidence based changes, impacting public policy, developing knowledge through innovation, and engaging the nation's community colleges and public in a movement focusing on student success (Achieving the Dream, n.d.). In more recent years, the focus on student college completion has been grounded in that most people will need some college to acquire a job that adequately supports a family (Bailey et al., 2015). Providing access to a broader range of students dominated community college's early years, now, student success and completion are the focus within public policy, funding structures, and evidence-based decision making on community college campuses.

Fourth, in addition to academic preparedness, non-cognitive aspects should be considered in a student's overall college readiness. One area which focuses on the student's ability to manage their emotions is emotional intelligence. EI can be segmented into five main domains: knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships (Goleman, 2005). EI is studied through the ability-based model which can be assessed through objective measurement tools or trait EI which can be assessed through self-reported surveys. As described later, this study will use a trait emotional intelligence tool as the research instrument.

Lastly, placement practices and policies are an important context for this research. As college readiness and student success factors have been a significant focus within the community college sector for many years, the placement measurement tools and processes continue to be analyzed and evaluated for validity and accuracy. Nationally, community colleges use academic placement test cut scores as the main way to deem an incoming student ready or not for college level coursework. However, recent research studies have found that using placement scores alone is not a reliable method to enroll students in the appropriate level of coursework (Cullinan et al., 2018). Many states, including Illinois, have taken thoughtful steps towards implementing statewide guidance for a multiple measures method as a more reliable method to place incoming students into college level courses (Illinois Community College Board, 2017).

### **Purpose of the Research**

This research study will explore whether there is a relationship between recent Elgin Community College (ECC) district high school graduates' trait emotional intelligence levels, their first semester cumulative grade point averages, and their first semester grades in mathematics and/or English. This research study included both developmental education and college level English and mathematics courses taken by the study participants. The geographical backdrop of the study is Elgin Community College, an urban community college located in a west suburban city of Chicago, Illinois.



## **Significance of the Study**

This study seeks to add to the college readiness, college entrance assessment, and student success research where supplemental assessments or multiple measures are being utilized and analyzed as more effective course placement for incoming community college students. If trait emotional intelligence is significantly correlated to first term college student success, the use of trait emotional intelligence interventions or training could be valuable in the high school and community college environment.

## **Research Questions**

This research study focused on recent graduates from Elgin Community College (Elgin, IL) District 509's area high schools (graduated in December 2017 or Spring 2018) and who enrolled at ECC for the first-time in the Fall 2018. These students were invited to complete a trait emotional intelligence survey as they matriculated into the ECC. The correlations between each of four trait emotional intelligence scores and global score, and student's final first semester grade point average, and English and/or mathematics final course grades were examined. The students within this research study could have been enrolled in Fall 2018 English and mathematics courses, in either English or mathematics courses, or not enrolled in either for the term. Then, the predictive impact of trait emotional intelligence levels to a student's first semester grade point average were computed for the sample. The following research questions guided the research:

- 1) Does a statistically significant independent correlation exist between the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and his/her first semester grade point average?

Hypothesis: A significant, positive correlation exists between each trait emotional intelligence level and the first semester grade point average.

Null Hypothesis: There is no statistically significant correlation between all trait emotional intelligence levels and the first semester grade point average.

- 2) Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester English (the student earned a C or better in any Fall 2018 English course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 English course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between students' trait emotional intelligence levels and successful completion of his/her first semester English course (earning a C or higher).

- 3) Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester in mathematics (the student earned a C or better in any Fall 2018 mathematics course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 mathematics course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between a students' trait emotional intelligence and the successful completion of his/her first semester mathematics grade (earning a C or higher).

- 4) What is the independent predictive power of each of the student's four trait and one global emotional intelligence levels in predicting the student's Fall 2018 overall grade point average?

Hypothesis: Each of the five emotional intelligence factors will be significant positive predictors of students' first semester GPA.

Null Hypothesis: There is no predictive value between students' trait emotional intelligence level and their first semester GPA.

## Definition of Terms

For the purpose of this research study and to provide clarification, the following definitions are listed below.

- *Academic readiness standards* – meeting the minimum competencies as defined by the higher education institution to be placed in college-level, credit-bearing coursework. This is typically demonstrated using cut scores from the SAT, ACT, placement tests, HiSet, or high school equivalency exam. These standardized tests are meant to assess how much a student has learned and their proficiency (U.S. Department of Education, n.d.) Similar terms used are entrance standards, academic placement standards, and assessment models.
- *Ability-based emotional intelligence*- this is the emotional intelligence theory based in emotion-related performance-based assessments where individuals demonstrate abilities to perceive emotions, use emotion to facilitate thought, understand emotions, and manage emotions (Mayer, Salovey, & Caruso, 2004).
- *College readiness* – college readiness is defined as comprehensive knowledge in academic content knowledge (reading, mathematics, and writing) as well as cognitive strategies for organizing and interpreting knowledge, ownership of learning, learning techniques, and college transition knowledge including financial, self-advocacy, and process driven skills (Conley & French, 2014).
- *Completion Agenda* – national efforts to increase the number of young adults (25 to 34 years of age) who would hold a two- or four-year degree to 55% by 2025 (Hughes, 2013).
- *High School Equivalency score* - the result from the four-part GED exam, the five-part HiSet exam, or five-part TASC exam taken within the State of Illinois (Illinois Community College Board, n.d.)
- *HiSet score* – the result from the five-part high school equivalency exam widely administered (HiSET, n.d.).
- *Multiple measures* – the use of high school grade point average, psychological assessments, academic placement tests or other measures to determine college level course readiness (Cullinan et al., 2018).

- *Trait emotional intelligence*- this emotional intelligence theory is based in emotion-related dispositions and self-perceptions of specific personality traits as they provide reason for an individual's reaction to life events (Petrides, 2009b).
- *Remedial coursework* – non-credit, basic skill courses to prepare a student for college level instruction (Scott-Clayton, Corsta, & Belfield, 2014). Students placed in remedial coursework do not earn college credit for those courses but can utilize some financial aid to pay for tuition costs. Similar term is developmental coursework.
- *Resiliency* – a student's ability to work through stressful situations and adversity.
- *Student Success*- for the purpose of this research study, student success is a grade of "C" or better per course taken in the Fall 2018 term and overall GPA above a 2.0. Similar term used is college success.

### **Summary of Chapters**

Chapter One explains the purpose and rationale of the study and includes an overview of the background of community colleges, the study's theoretical framework, research questions and definition of terms. Chapter Two covers the theoretical basis for the research study by analyzing and synthesizing a comprehensive selection of the available research in community college history, college readiness, first-year student success and completion, emotional intelligence, and placement measures. Chapter Three provides a detailed description of the research study's design and procedures of the study. The methodology section also describes the quantitative paradigm of the study, limitations, and delimitations of the study. Chapter Four's objective is to discuss the results and outcomes of the study. It begins with data collection descriptions, which are aligned with the research questions. Any findings that were unexpected during data research will also be noted. Lastly, Chapter Five includes the connection and interpretation of the data analysis as related to the research questions.

Additionally, the implications of the study's results and recommendations for future research will be discussed in this final chapter.

## CHAPTER TWO: LITERATURE REVIEW

### **Introduction: Community College History and Purpose**

The origins of U.S. community colleges began as junior colleges and branch campuses of four-year colleges and universities. Early in the 20<sup>th</sup> century, junior colleges were defined as an institution where “curriculum suited to the larger and ever-changing civic, social, religious, and vocational needs of the entire community in which the college is located. It is understood that in this case, also, the work offered shall be on a level appropriate for high-school graduates” (Bogue, 1950). Over the course of the 20<sup>th</sup> and 21<sup>st</sup> centuries, community colleges have evolved into a complex center of post-secondary education for students immediately after high school or later in life as returning adult students.

During the 1950s and 1960s, the number of community colleges significantly increased as the birthrate had increased in the 1940s. Furthermore, the return of the WWII veterans and the creation of the GI Bill, increased the access to college for those who would otherwise never consider higher education a viable or affordable option (Cohen et al., 2014). In 1947, the Truman Commission renamed the junior college to community college to better describe the college’s mission to serve the community’s needs in various forms (State University.com, n.d.). By the early 1970s, community colleges were built across the nation so that 90 to 95% of the state’s population lived within commuting distance of a community college (Cohen et al., 2014). Additionally, community colleges practices began to change in the 1970s to allow for students

to experience multiple courses of their choosing with few prerequisites (Cohen et al., 2014).

Community colleges served a purpose to be for the community and respond to the local needs.

One common American ideal throughout time was to have a seamless education system from secondary education, community college, baccalaureate, and then to a graduate degree (Cohen et al., 2014). Early community college advocates identified the disconnects between secondary education and the university system and responded through the development of the junior college (Cohen et al., 2014). Historically, the entire education system has been looked to for society's answer to public issues such as low employment rates. However, the secondary education system lacked the resources to answer these questions and the elite, intellectual university system was not built to answer as well. Therefore, community colleges provided a bridge to university rigor for those who would not have entered that system and a resolution to society's needs such as workforce training (Cohen et al., 2014). A good place to begin the reimagining higher education conversation is reviewing the early partnerships formed among secondary and four-year university systems that brought the need for community colleges in the early 20<sup>th</sup> century.

With the complexity of various socioeconomic, cultural, and academic student backgrounds, community colleges are the educational center where students' abilities are assessed and placed into the appropriate pathway towards success but with little contribution from educational partners. In the early 1920s, the gap between secondary academic achievement and college level academic readiness standards was not as large as it is today (Cohen et al., 2014). The discrepancies between placement test expectations and what is currently being taught in the high school which began in the 1960s created the need for

developmental education (Cohen et al., 2014). The partnerships between secondary and universities must be re-established today to respond to the student success and completion agenda (American Association of Community Colleges, 2012). The immediate from high school to college enrollment rate increased from 63% in 2000 to 70% in 2016. Within this cohort, 24% were enrolled at a community college (National Center for Education Statistics [NCES], 2018). Many students intend to transfer to a four-year college or university after attending a community college (Center for Community College Student Engagement, 2014). At Elgin Community College, the transfer out rate was 25% for the 2014 cohort of ECC students (NCES, 2017b). As financial resources such as grant funding remain focused on student success, community colleges need to continue efforts aimed at partnership, collaboration, and innovation to best serve students in society today.

### **College Readiness**

Dr. David Conley is largely responsible for bringing college readiness to the forefront of state and local policies and has developed a research organization to focus on the concept of college readiness (Inflexion, 2017). According to Dr. Conley, a college and career ready student is one that “possesses the content knowledge, strategies, skills, and techniques necessary to be successful in any of a range of postsecondary settings” (Conley, 2012). Within Conley’s college and career framework, a college ready student must exhibit many academic, noncognitive and college awareness qualities including the ability to manage their emotions and self-adjust in various situations (Conley, 2012). Under Dr. Conley’s four key areas of college and career readiness, it is not only academic achievements that formulate a successful college student but



also knowing how to learn new materials, taking ownership of the learning process, and self-advocating (Inflexion, 2017; see Table 1).

Table 1: *David Conley's Four Keys of College and Career Readiness*

KEY COGNITIVE STRATEGIES	KEY CONTENT KNOWLEDGE	KEY LEARNING SKILLS & TECHNIQUES	KEY TRANSITION KNOWLEDGE & SKILLS
Problem formulation, research, interpretation, communication, precision and accuracy	Key terms & terminology, factual information, linking ideas, organizing concepts	Time management, study skills, goal setting, self-awareness, persistence, collaborative learning, student ownership of learning, technological proficiency, retention of factual information	Postsecondary program selection, admissions requirements, financial aid, career pathways, postsecondary culture, role & identity issues, agency

(Conley D. , Four keys to college and career readiness, 2011)

Conley's college and career readiness model emphasizes that students need education not only in writing, reading, and arithmetic but also in self-awareness and emotional management. However, as noted previously, there is little research of how trait emotional intelligence relates to academic college readiness measures or college student success within the community college setting which supports the need for this quantitative research. Conley emphasizes that college readiness not only includes academic area knowledge but also self-awareness, self-efficacy, and motivation.

As open access institutions, community colleges provide options to students with various academic, social, and emotional intelligence levels. Like most states, the State of Illinois has recognized that high school student college readiness cannot be determined merely by graduating from high school. In 2007, Illinois passed the College and Career Readiness Pilot Program where the primary goal was to better prepare students for college academically and

evaluate collaborations between high schools and their local community colleges (Baber, Castro, & Bragg, 2010). The initiatives under this act focused on Conley's four areas of college readiness and over the course of time provided data to evaluate methods of effective use across the state. For example, one of the many sites of innovation was College of Lake County (CLC)'s work in mathematics and English interventions to improve students' success and evidenced through a post-assessment. CLC found that two out of three students' raw Accuplacer test scores in mathematics increased after participating in an intervention such as a fourth-year high school and summer mathematics experiences (Linick, Taylor, Reese, Bragg, & Baber, 2012). In 2016, Illinois passed the Postsecondary and Workforce Readiness (PWR) Act where one of the primary goals of the Act is to eliminate the need for high school graduates to enroll in remedial education in community college (Advance Illinois and Education Systems Center, 2016). According to Advance Illinois (an educational advocacy organization within the state), approximately half of Illinois high school graduates require some remediation which creates barriers of expense and time. The PWR Act establishes a framework for secondary and higher education systems to establish key college knowledge expectations from eighth grade to twelfth grade (Advance Illinois and Education Systems Center, 2016). High school students should be immersed in career exploration and preparation, financial literacy and accessing financial aid, and the development of an educational plan. Additionally, higher education is responsible for creating smoother transitions for high school students to matriculate into college. For example, if a student takes and passes an approved fourth-year high school mathematics course, the student would be deemed college ready for college-level mathematics coursework (Advance Illinois, 2016).

## **Additional College Readiness Frameworks**

Several college readiness theories exist with varying elements of readiness within each theory. In 1926, the College Board created the SAT test to assess high school students for college readiness. According to the College Board, the SAT standardized exam along with the student's high school grade point average is a predictor of a student's college readiness and college outcome (College Board, n.d.). However, the 2012 national high school graduating class demonstrated only a 43% of meeting the SAT college and career readiness benchmark (Venezia & Jaeger, 2013). The SAT benchmark score was 1550 which at this level or above predicted a 65 probability of achieving a first-year grade point average of a B- or better (College Board, 2013). In 1959, the ACT exam was developed to assess cognitive reasoning but also test information learned in school (Lindsay, 2015). As of the 2018 ACT performance report of graduates, only 38% of US high school graduating seniors met at least three of the four ACT College Readiness Benchmarks, citing the lack of early college readiness interventions and resources for secondary school teachers as the primary reasons for low college readiness attainment (ACT, 2018). The ACT college readiness benchmarks are students scoring an 18 on English, 22 on social sciences, 22 on college algebra, and 23 on biology (ACT Research and Policy, 2013).

A second college readiness theory highlights the need for extensive collaboration between community colleges and high schools (McGaughy & Venezia, 2015). In America's early years, secondary schools and traditional four-year universities strategized and operated independently. The four-year university was an academic path for the wealthy and many times located far from the student's home which in the rural areas of America prohibited many students from accessing higher education (Gilbert & Heller, 2013). This lack of collaboration

built unrealistic expectations for high school students, assessment standards, and college culture (McGaughy & Venezia, 2015). The 1947 Truman Commission stated that community colleges were to be developed as schools that were locally controlled, fit into the statewide educational system, and served the needs of the community (Gilbert & Heller, 2013). However, with unique governing bodies, funding models, and laws, a student's seamless transition from secondary education to community colleges remain a struggle. For many decades, college readiness initiatives have developed around the country to respond to student's lack of readiness as they leave the high school environment. For example, Lee College and Goose Creek school district in southeastern Texas began a strong collaboration to promote college matriculation and student success (Center for Community College Student Engagement, 2016). By developing integrated student support services, dual credit opportunities, and high school to college curriculum alignment, Lee College saw a 49% increase in successful completion in remedial English coursework and a 12% increase in successful completion of remedial Mathematics coursework from 2010 to 2014. (Center for Community College Student Engagement, 2012)

College readiness has found its way into state legislation that requires secondary and postsecondary educational institutions to work collaboratively for more high school students to be more college and career ready. As previously noted, in 2007, the State of Illinois passed Public Act 095-0694, the College and Career Readiness Pilot Program. This program sought to promote successful transition for Illinois high school students from secondary education to postsecondary education (Baber et al., 2010). Later, in 2016, House Bill 5729 passed in Illinois to establish the Postsecondary and Workforce Readiness Act. The four main areas of college

readiness within this law are postsecondary and career expectations, competency-based learning systems, transitional mathematics, and college and career pathway endorsements (Advance Illinois and Education Systems Center, 2016). These pieces of legislation challenge the status quo of college readiness assessment on college campuses today whereas standardized exams are no longer the sole option to evaluate students' capabilities of going to college.

Approximately half of all incoming college students are required to begin their college experience taking at least one remedial course (Scott-Clayton & Stacey, 2015). Remedial courses are designed to prepare students for the rigor of college level courses. However, if a student is placed in remedial courses unnecessarily, it will delay the student's progression towards completion, incur more tuition expense, and possibly label the student as less than compared to those not in remedial courses (Cullinan et al., 2018). According to a Community College Research Center (CCRC) study, underplacements, testing into remedial coursework when in fact the student would be successful in college-level courses, were more common than overplacements into college-level courses. In an urban community college setting, nearly a quarter of students assigned to remedial math and a third of students assigned to remedial English could have passed college-level courses with a B or better (Scott-Clayton & Stacey, 2015). This analysis was completed in a community college where students are not required to enroll in the remedial courses recommended after placement testing was completed. For example, approximately half of the student cohort who tested into remedial English enrolled in college-level English and performed just as well as those who tested into college-level English. CCRC found this result to imply remedial courses are not necessary for all students and other

factors such as motivation and effort need to be considered in evaluation of student's academic college readiness (Roksa, Jenkins, Jaggars, Zeidenberg, & Cho, 2009).

In 2012, the American Association of Community Colleges' 21<sup>st</sup> Century Commission on the Future of Community Colleges reported that to achieve the student degree completion rates required for the skilled labor needs of the future, dramatic changes were needed to remedial education. The Commission (2012) recommended the following:

1. Dramatically improve college readiness: By 2020, reduce by half the numbers of students entering college unprepared for rigorous college-level work, and double the number of students who complete remedial education programs and progress to successful completion of related freshman-level courses.
2. Creating new evidence-based pathways that accelerate a student's progress toward completion. Use methods such as acceleration, contextualization, collaborative learning, and student and academic support.
3. Align high school and college expectations for college-level work
4. Implement large-scale and effective partnerships with K-12 at both leadership and faculty levels.

The strategies suggested by the Commission reinforce the need for innovative and holistic strategies for students to be successful in college. The use of multiple measures in academic readiness standards, high school college readiness interventions, and a collaborative relationship between educational systems support these strategies.

### **First-Year Student Success and Completion**

More recently, higher education has shifted from an access-focused agenda to a completion agenda. The overall three-year completion or graduation rate (150% rate) for community college students at a public, two-year institution was 24% for the 2013 cohort

which is a marginal increase from the 20% that this rate has been over the previous nine years (NCES, 2017a). Furthermore, community colleges have spent a great deal of time and resources investing in student success, completion research and implementing findings with some positive results, but it is critical for each college to design their initiatives with their students in mind (Center for Community College Student Engagement, 2012). For example, in 2009, Complete College America, a nationwide non-profit organization, sought to build an alliance of higher education institutions to eliminate the achievement gaps for all students and complete a degree or credential (Complete College America, n.d.). Through innovative strategies and proven results, community colleges can build student success frameworks.

An important concept to explore in the context of student success and completion is student development theories. In 1969, Arthur Chickering published his theory of seven vectors of a student's journey while navigating the college experience. Later, in 1993, Chickering and Linda Reisser revised Chickering's seven vectors of student development as a philosophy that focuses on the student's whole self and an area for colleges to support students in their educational journey (Chickering & Reisser, 1993). The seven vectors include developing competence, managing emotions, developing autonomy, establishing identity, freeing interpersonal relationships, developing purpose, and developing integrity. A 2011 study surveyed how students' perception of learning was viewed through the lens of the seven vectors and the technology used in the course. Students stated they valued faculty feedback, time on task, and student-faculty contact the most out of all the practical areas based in the vectors (McCabe & Meuter, 2011). The study provided areas of improvement for faculty to consider such as using chat rooms in the course management system to strengthen

communication and frequent use of the grade book for students to receive timely feedback. Community college faculty and administrators understanding how current students perceive and comprehend the steps of student development can impact teaching methodology, faculty approach to online learning, and overall student success (McCabe & Meuter, 2011). These vectors include many non-cognitive traits and skills that may have not been learned during the student's secondary education. Therefore, community colleges have an opportunity to use Chickering's model to re-evaluate student college course placement practices and academic structures that promote student success.

Vincent Tinto developed another student success theory which is built through academic, personal and social support systems (Tinto, 2003). Tinto emphasized that first-year students require academic, social, or personal support readily available and support measures connected to their existing college life (Tinto, 2003). Within Tinto's framework, student success is found not only in academic achievements but also within non-cognitive achievements. One research study sought to validate Tinto's theory by looking at how personal validation which includes being recognized, respected, and seen as valued, leads to college retention. The research findings indicated that faculty-to-student interaction which included personal validation influenced student academic integration and persistence (Barnett, 2011).

Understanding students' resiliency levels, which is the ability to effectively respond to adversity, add to the college's student success framework. Students look to faculty and school officials for guidance on personal reactions to situations which highlights the need for college personnel to understand this aspect of their student body (Gray, 2015). A new generation of students are entering college with years of parents and teachers being a safety net for difficult



situations, a belief that failure in the classroom is beyond repair and being correct in a conversation is extremely important (Gray, 2015). These emotional handicaps for entering college students reinforce the need for college faculty and staff to build student success frameworks as soon as the students begins the college admission process.

In the most recent years, the nation-wide efforts for students to complete a degree or certificate has been a primary area of concern in both state and national policy agendas. Similar to the national average, approximately 50% of entering Illinois community college students test into at least one remedial course (Advance Illinois, 2016). These students who place below college level are then subject to a higher probability of failure whether it is in the remedial course or in overall retention (Center for Community College Student Engagement, 2016). In the six year look at community college students who completed a degree or certificate, only 34% who took at least one remedial course completed a degree or certificate within that time frame compared to 40% who took no remedial courses (Ganga, Mazzariello, & Edgecombe, 2018). The lower completion rate of those students in remedial coursework, albeit only 6% less than non-remedial students, fuels a very expensive system where collectively families and students can spend up to \$1.3 billion per year in remedial courses (Ganga et al., 2018). Community colleges implementing alternative placement measures which promote more college-ready placements will provide well needed financial relief to thousands of families and students.

To respond to these statistics and to improve student success rates and completion, some community colleges have developed comprehensive models to better sustain positive results. Some models include introducing multiple measures for course placement, co-

enrollment in remedial and college level courses, and redesigning reading and math transitional courses in the high school setting that will be equivalent to college level (Center for Community College Student Engagement, 2016). Additionally, the Community College Research Center found three strategies among various community colleges which show evidence of sustainable student success (Edgecombe & Bickerstaff, 2018). The three strategies are structuring remedial coursework to promote persistence, placing support systems in the classroom, and assisting students in building psychological skills to better handle the college environment. The student success and completion conversation has begun to place emphasis on both the student's college readiness standards and non-cognitive traits related to emotional intelligence attributes.

Lastly, achievement of student success directly feeds into a community college's mission statement. Community colleges were built on the foundation to respond to the communities' needs and allow all individuals to become their better self (State University.com, n.d.). However, only 62% of full-time community college students and 44% of part-time community college students are retained from year-to-year which leaves a larger percentage of new students starting each semester (NCES, 2017b). Additionally, the six-year completion rate for community college students is 39% compared to 68% for four-year college students (National Student Clearinghouse, 2018). With this amount of turnover, a community college's student success strategy cannot be a one size fits all method. Studies have explored how three main variables, academic achievement and aptitude variable, circumstance variable, and personal variables can directly impact student success (Kim, Newton, Downey, & Benton, 2010). The "personal variables" include attitude, self-perception, values, problem-solving, and overall

behaviors which have overlapping attributes to non-cognitive skills. Higher education professionals can begin to explore from this study whether these personal variables are important to support, provide resources, and evaluate incoming college students.

## **Emotional Intelligence**

A popular area of study within the psychological field is the concept of emotional intelligence. Mayer et al. (2004) defined EI as:

The capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions to promote emotional and intellectual growth. (p. 199)

Like Conley's college readiness framework which includes self-awareness and emotional management, EI is a learned skill that allows a student to recognize emotions, learn from prior emotional responses, and react appropriately. As a quantifiable metric using established assessment tools, EI provides an additional dimension to an individual's intelligence and process of thought (Mayer et al., 2004).

Emotional Intelligence theories have evolved over the years to include two predominant constructs – trait emotional intelligence and ability emotional intelligence. Ability based emotional intelligence focuses on the individual's ability to incorporate the components of emotional intelligence into their overall personality. This model measures attributes such as recognizing emotions in others, using emotions to assist thinking, analyzing emotions, and managing of one's emotions (Mayer et al., 2004). Trait emotional intelligence "concerns emotion-related dispositions and self-perceptions measured via self-report" (Petrides, Pita, & Kokkinaki, 2007). This construct provides a view into the individual's various aspects of their

personality which influences the way a person interprets a situation versus the cognitive performance model of the ability-based EI. In other words, trait emotional intelligence reveals explanations rather than predicts the future of an individual's reaction to various experiences (Petrides, 2009a). In this research study, the trait emotional intelligence theory is utilized as other research studies have found indirect, direct, and predictive associations with trait EI in educational settings (Ferrando, et al., 2011; ; Perera & DiGiacomo, 2015; Petrides, Frederickson, & Furnham, 2004).

#### Ability-Based Emotional Intelligence

EI has been said to be comprised of pieces of one's emotional self that either responds well or not to everyday human interactions (Goleman, 2005). In 1997, Mayer and Salovey pioneered the ability-based emotional intelligence definition where five main domains shape a person's EI. These domains include knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships. Research using ability emotional intelligence has found that students who possess high EI also possess high motivation, planning, and decision-making skills, which all positively influences academic success (Fernando et al., 2011). The EI abilities of managing emotions, how to regulate emotional distractions, and focus on task completion could contribute to higher academic performance (Downey, Mountstephen, Lloyd, Hansen, & Stough, 2008).

Ability-based emotional intelligence studies have been embraced by the United States K-12 systems as a necessary element of curriculum. Goleman stated that the use of his social emotional learning curriculum grounded in EI theory has helped shape the positive outcomes of many K-12 schools that have embraced the movement (Goleman, 2005). In one example, a

social-emotional learning (SEL) research study conducted by the University of Illinois at Chicago reported up to 50% of the students within participating SEL schools demonstrated improved achievement scores and up to 38% of students improved their grade point average (Goleman, n.d.).

### Trait Emotional Intelligence

Trait emotional intelligence is referred to as a “constellation of behavioral dispositions and self-perceptions concerning one’s ability to recognize, process, and utilize emotion-laden information” (Petrides et al., 2004). Studies have reported positive relationships or relevant findings where students who exhibited positive trait emotional intelligence attributes achieved better academic success (Di Fabio & Palazzeschi, 2015; Ferrando, et al., 2011). Furthermore, as trait emotional intelligence aims to explain an individual’s action in the context of their personality, trait EI can assist in the development of personalized student success strategies and interventions that students will better respond to in the college environment.

In this research study, the TEIQue -short form survey factors are the basis of the trait emotional intelligence levels explained by each student survey response. The TEIQue survey was developed in 1998 by Dr. K.V Petrides during his doctoral dissertation focusing on early emotional intelligence models (Petrides, 2009a). Since then, many versions of the TEIQue survey have been developed and used within research studies across the world. The four factors analyzed within the TEIQue – short form are emotionality, self-control, sociability, and well-being. Petrides (2009b) described the four trait emotional intelligence factors as the following:

**Emotionality:** Individuals with high scores on this factor are in touch with their own and other people's feelings. They can perceive and express emotions and use these qualities to develop and sustain close relationships with important others. Individuals with low scores on this factor find it difficult to recognize their internal emotional states and to express their feelings to others, which may lead to less rewarding personal relationships.

**Self-control:** High scorers have a healthy degree of control over their urges and desires. In addition to controlling impulses, they are good at regulating external pressures and stress. They are neither repressed nor overly expressive. In contrast, low scorers are prone to impulsive behavior and may find it difficult to manage stress.

**Sociability:** This factor differs from the emotionality factor above in that it emphasizes social relationships and social influence. The focus is on the individual as an agent in social contexts, rather than on personal relationships with family and close friends. Individuals with high scores on the sociability factor are better at social interaction. They are good listeners and can communicate clearly and confidently with people from diverse backgrounds. Those with low scores believe they are unable to affect others' emotions and are less likely to be good negotiators and networkers. They are unsure what to do or say in social situations and, as a result, they often appear shy and reserved.

**Well-being:** High scores on this factor reflect a generalized sense of well-being, extending from past achievements to future expectations. Overall, individuals with high scores feel positive, happy, and fulfilled. In contrast, individuals with low scores tend to have low self-regard and to be disappointed about their life as it is at present. (pp. 10-11)

### **Emotional Intelligence Theories in Relation to Traditional-aged College Students**

A limited number of research studies have been conducted to review and analyze the emotional intelligence theories in the context of college-age students. In a study conducted by Di Fabio and Saklofske (2018), college students were given the London Psychometric lab's TEIQue-SF form along with other surveys to evaluate resiliency levels and trait emotional intelligence levels. The data was then analyzed to determine if a relationship exists between resiliency and trait EI. The study concluded that there was a relationship between resiliency and

trait EI (Di Fabio & Saklofske, 2018). This study is important as resiliency has been discussed as a key ingredient to student success. In another study, researchers (Lam & Kirby, 2002) studied 304 undergraduate United States university students utilizing a cognitive, ability-based performance EI test and found that EI positively contributed to the student's overall general intelligence (p. 139).

Perera and DiGiacomo (2015) studied 470 freshman students at an Australian university utilizing the TEIQue-SF to assess trait emotional intelligence (p. 209). The research found an indirect link between trait EI with academic performance. The conclusion of this study supported "the possibility that affective personality assessments may be useful for university administrators and counselors in detecting freshmen most likely to benefit from early social support and coping interventions designed to foster adjustment and achievement" (Perera & DiGiacomo, 2015, p. 211).

Additionally, a research study conducted at Joliet Junior College of 71 remedial English students utilized the trait EI theory to correlate the student's COMPASS reading placement score and the ability to complete the remedial English course to their trait EI levels. This research study found that a statistically significant probability did exist between a student's trait EI level and the student's ability to pass remedial English while there was no correlation found between the student's COMPASS Reading test score and their success in remedial English (Vanderhyden, 2017).

In summary, emotional intelligence theories range from ability-based models to self-reported perception models such as those to evaluate trait emotional intelligence (Di Fabio & Palazzeschi, 2015). Ability-based models, such as Mayer and Salovey's model, view an

individual's emotional intelligence based in five main areas: knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships (Goleman, 2005). Ability-based EI is viewed as an intellectual ability and requires a performance-based assessment to determine the correct or incorrect responses to a situation. In contrast, trait emotional intelligence models, such as Petrides and Furnham's model, focus on an individual's complex emotion-related self-perceptions. Petrides and Furnham's model includes a self-reported analysis of an individual's comprehensive list of characteristics of how one faces adversity and how to communicate feelings to others (Di Fabio & Palazzeschi, 2015). Petrides et al. (2004) note, "the usefulness of trait EI is to be judged primarily on the basis of what it explains and not on the basis of what it predicts" (p. 289).

The trait emotional intelligence theory has not been thoroughly researched in the context of first-year college student academic success but has been used in secondary and other post-secondary settings. For example, few studies have explored the correlations of trait emotional intelligence to academic performance in combination with factors such as social support, coping skills, and personality tests (Ferrando et al., 2011; Perera & DiGiacomo, 2015). One study located in Great Britain found that students with lower IQ scores are more likely to draw from trait emotional intelligence strengths to cope with the stress of academic performance. The univariate ANOVAs demonstrated that higher trait emotional intelligence was more impactful for student with lower IQ scores. Additionally, the low IQ students with high trait emotional intelligence scores performed better with statistical significance in English and for the general certificate of secondary education exam (Petrides et al., 2004). Trait EI assessments are also more operational than ability-based EI assessments especially for general



use within a research study because of trait EI's direct, objective questions versus ability-based EI instruments being difficult to create and score (Petrides et al., 2004). For these reasons, Petrides and Furnham's (as cited by Fabio & Palazzeschi, 2015) trait emotional intelligence model is used in the present study to assess student's emotional intelligence in the context of a student's first term in college.

### **Community College Placement Practices**

Placement exams were created to assess which courses a student is prepared to take in a postsecondary institution (Flory & Sun, 2017). For many years, community colleges have used placement exams as an efficient, objective measure of the vast students beginning their post-secondary education journey. In recent years, community colleges have explored utilizing multiple measures in assessing a student's ability to be successful in college level coursework to improve placement accuracy and reduce the number of students placed in remedial coursework. Colleges in California and in New York have found that utilizing multiple measures do place students in college-level coursework more appropriately (Cullinan et al., 2018). The primary academic readiness standards used at community colleges include traditional placement exams, noncognitive tests such as Learning and Study Strategies Inventory (LASSI), writing assessments, computer skills assessments, questionnaires, high school grade point average, other high school transcript information, and other standardized exams (e.g., PARCC; Cullinan et al., 2018). Research results from the use of multiple measures is in the early stages on the impact of the larger completion agenda and student success initiatives but preliminary reports have been positive as noted in the California and New York studies.

## Current College Readiness Standards at Elgin Community College

For a new student to enroll in Elgin Community College's Illinois Articulation Initiative (IAI) general education courses, they must meet certain minimum competencies in English, Mathematics, and Reading. These minimum competencies are measured during the application and enrollment processes using established placement test score cut-offs (Elgin Community College, 2017). Students must submit their ACT, SAT, PARCC, HiSet, or high school equivalency scores. If the scores do not meet the established cut-offs, students have a second opportunity to demonstrate academic college readiness through college-administered placement tests. Table 2 displays the standardized test cut scores for new ECC students (Elgin Community College, 2017). Placement tests at ECC are free to students who do not meet these scores and only one retest is allowed per subject area.

Table 2: *Test Scores for Minimum Competency at ECC, Fall 2018*

	ACT	SAT (PRIOR TO MARCH 2016)	NEW SAT (FROM MARCH 2016 OR LATER)	HIGH SCHOOL EQUIVALENCY	HiSET
Reading	18 Reading	450 Reading	530 Reading & Writing	165	15
Writing	20 English	490 Verbal	530 Reading & Writing	165	15 plus essay score of 4
Math	23 Math	540 Math	570 Math	165	15

If students are required to take a math placement exam, they are required to take the ALEKS (Assessment and Learning in Knowledge Spaces) exam. The ALEKS scores are utilized by an academic advisor through evaluating the final scores and a recommendation for an appropriate math course is provided to the student. However, for a student who did not do well on the ACT or SAT, did not test well in the placement assessments, but has a passing ("C"

or better) in algebra II and a 3.5 cumulative high school grade point average, the student may be assigned college level mathematics coursework. Otherwise, the student will be placed into remedial coursework. A demonstrated lack of success in standardized testing along with a “C” average academic record may signal a perseverance that is found in those that are able to self-regulate emotions, attend to their well-being, and seek assistance from others when needed to be successful.

If a student is required to take a reading placement exam, they are required to take a 30-question computerized College Success test. This test, developed by McCann Associates, focuses on the reading frameworks of referring and reasoning.

If a student is required to take the English placement exam, they are required to write a two-page essay on a computer within the testing center. This essay is to focus on one of three proposed topics delivered to the student in the testing center. The tests are evaluated, and placement decisions are determined by ECC’s English faculty.

After the student’s scores are available, the appropriate courses are selected with the assistance of an academic advisor. With college standardized and placement assessments being ECC’s significant measure of preparedness for college level courses, there may be a larger group of students falling through the college success gap and unnecessarily entering remedial coursework. The question is, could the assessment of trait EI along with measurement of a student’s academic readiness, increase the likelihood that a student is more accurately placed, provided necessary support measures, and more likely to complete?

On June 1, 2018, the Illinois Council of Community College Presidents approved a recommendation to all 48 Illinois community colleges for a common placement framework (see

Table 3). This framework will be developed with oversight by the Illinois Community College Board (ICCB) which is the state agency that provides support and guidance to Illinois community colleges. ICCB's recommendations echo the national research which encourages the use of multiple measures for student placement in college-level coursework. The development of revised placement standards at ECC began in 2018 with the intent of implementing multiple measures in 2019.

Table 3: *Illinois Community College Placement Framework*

<ol style="list-style-type: none"><li>1. The document <b>recommends</b> that colleges use multiple measures for placement.</li><li>2. The recommendation suggests a list of valid measures to choose from, including scores on those measures. (This list is still in development in late 2018)</li><li>3. The recommendation charges the Illinois Community College Board with doing further research about the validity of those measures.</li><li>4. The recommendation charges the Illinois Community College Board with putting together a working group to go over implementation issues.</li><li>5. The document demonstrates that the Illinois Community College system is aware of disparities in placement across the state and is actively working to correct those disparities in a collaborative manner.</li><li>6. The ICCB has supported this effort, has been in high-level conversations about this work, and has worked to balance local control issues with the need for more statewide consistency on this issue.</li></ol>
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(Illinois Community College Board, 2017).

## **Conclusion**

This research study will explore relationships between trait emotional intelligence and first term college student success through cumulative grade point averages and final grades in mathematics and/or English. If trait emotional intelligence levels correlate with statistical significance to a student's ability to be successful in college, there may be opportunities for

early student interventions in the high school or first semester of college focused on development of trait EI domains.

Community colleges began with the mission of open access for first-year college students to pursue general educational requirements and provide opportunities to build a more skilled workforce (Jurgens, 2010). In partnership with secondary education, community colleges were deliberately aligned with high school curriculum. However, over the course of societal, economic, generational, and political landscape changes in education, community colleges have had to redesign college readiness initiatives, placement measurements, and student success metrics.

Chapter Three will provide information on the research sample, what and how data was collected. The results of the study will display whether a correlation exists between trait emotional intelligence and students' first term success as demonstrated in their cumulative first term grade point average and final first term grades in mathematics and/or English.

## CHAPTER THREE: METHODOLOGY

### **Introduction**

College access and completion remain a key focus area for higher education. Effectively assessing students' college readiness prior to enrollment allows students to begin their college coursework at a level that will maximize the opportunity for success. Recent high school graduates, especially underrepresented and first-generation college students, typically are not fully self-aware of their personality attributes and future aspirations to make well-thought decisions about which college best fits their needs (Venezia & Jaeger, 2013). Therefore, colleges are tasked with appropriately assessing academic college readiness and potential success of an academic and emotionally diverse student base.

This study explored whether students' trait emotional intelligence levels are correlated to their first term academic success. A student's emotional intelligence level may add more accuracy to the assessment of that student's college readiness in a way that recognizes broader dimensions of readiness beyond academic skills, or what Conley called "content knowledge and cognitive strategies" (Conley, 2012). The focus of this study is to examine whether the student's trait emotional intelligence is correlated to his/her first term grade point average (GPA). Specifically, the four factors of trait emotional intelligence, emotionality, self-control, sociability, and well-being as well as their global trait were each correlated to the student's Fall 2018 grade point average and to first term English and/or mathematics final course grades (Petrides, 2009a).

This methodology chapter provides an overview of the research design and strategies used during this research study. This body of research is grounded in credible and transparent steps for development of research questions, design, methodology, data collection, and data analysis.

### **Research Problem**

As an open access option, community colleges provide post-secondary education opportunities to all students, but particularly to those without a history of high academic achievement in high school (Jurgens, 2010). Community Colleges also provide an entryway to gainful employment. Many high school students lack the preparedness for post-secondary education and based on the number of students who enter developmental education and do not complete, the common metrics to assess and determine college readiness are not effective (American Association of Community Colleges, 2014). Researchers have stated noncognitive traits such as intellectual skills and motivation should be taken into direct consideration when determining college readiness and making course placement decisions (Maruyama, 2012). At the same time, academically-focused objective placement assessments in the subject areas of reading, mathematics, and writing have been challenged for their validity and accuracy of predicting student program success (Belfield & Crosta, 2012; Maruyama, 2012; Scott-Clayton et al., 2014).

Approximately half of Illinois high school graduates require remedial coursework and are academically underprepared as they exit high school and matriculate to the community college (Advance Illinois, 2016). According to Scott-Clayton et al. (2012), “half of all undergraduates will take one or more remedial courses while enrolled” and “with over three

million new students entering college every year, this implies a national cost of nearly \$7 billion dollars annually” (pg. 1). Scott-Clayton et al. explained that this figure is only for direct educational costs and does not include the loss of time for students and effort climbing the ladder of remedial education. Therefore, it is important to consider additional assessments to determine academic college readiness, and this research study investigates the value of using students’ trait emotional intelligence as one such assessment.

### **Research Questions**

This research study focused on recent graduates from ECC’S District 509’s area high schools (graduated in December 2017 or Spring 2018) and who enrolled at ECC for the first-time in the Fall 2018 ( $n = 1,067$ ). These students were requested to complete a trait emotional intelligence survey as they matriculated into the college. Each of four trait emotional intelligence scores and global score were correlated to the student’s final first semester grade point average and to English and/or mathematics final course grades. Then, the predictive impact of trait emotional intelligence levels to a student’s first semester overall grade point average were computed through multiple linear regression analysis. The following research questions guided the research.

### **Correlation Analysis**

- 1) Does a statistically significant independent correlation exist between the student’s trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and his/her first semester grade point average?

Hypothesis: A significant, positive correlation exists between each trait emotional intelligence level and the first semester grade point average.

Null Hypothesis: There is no statistically significant correlation between all trait emotional intelligence levels and the first semester grade point average.



- 2) Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester English (the student earned a C or better in any Fall 2018 English course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 English course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between students' trait emotional intelligence levels and successful completion of his/her first semester English course (earning a C or higher).

- 3) Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester in mathematics (the student earned a C or better in any Fall 2018 mathematics course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 mathematics course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between a students' trait emotional intelligence and the successful completion of his/her first semester mathematics grade (earning a C or higher).

### Multiple Regression Analysis

- 4) What is the independent predictive power of each of the student's four trait and one global emotional intelligence levels in predicting the student's Fall 2018 overall grade point average?

Hypothesis: Each of the five emotional intelligence factors will be significant positive predictors of students' first semester GPA.

Null Hypothesis: There is no predictive value between students' trait emotional intelligence level and their first semester GPA.

### Research Design

#### Overview to the Study

A quantitative research methodology was selected for the research study. Quantitative research is built within a mathematic and objective framework to support or reject a hypothesis

(McLeod, 2017). A correlational research study was conducted during the fall of 2018 at ECC and explored the presence of a statistically significant relationship between recent high school graduates' trait EI levels and their first semester academic success overall, as well as success in first term mathematics and/or English courses. A correlation is a numerical representation of a relationship between two variables (Trochim, 2006). Additionally, this research study explored the predictive impact of students' trait emotional levels on their first semester grade point average. This predictive impact was measured using a multiple regression analysis technique including variables of recent high school graduates' trait EI levels and their Fall 2018 overall grade point average.

## Subjects

The population of this research study was recent high school graduates who applied for admission, took placement tests or submitted ACT/SAT scores at Elgin Community College and enrolled in Fall 2018 classes. The population was further limited to all new, first-time at ECC students who reached the age of 18 by the time the email request was sent to the student requesting the student's participation in the research study. The limitation to 18-year olds was necessary to eliminate the need for parental consent to participate in the research study. ECC's Institutional Research department identified the population of students and provided to the researcher the email addresses and a number identifier for each qualified student. The narrowed population was invited by email to participate in the research study. The population was segmented into three groups during the research period to capture as many recent high school graduates as they enrolled throughout the summer and into Fall 2018 term. Fall 2018 open registration began April 9, 2018 and continued until Friday, August 24, 2018. After this

date, instructor consent to enroll in a sixteen week is required. The researcher selected students who had enrolled in coursework by August 31, 2018 to capture as many students as possible. The end date for students to complete the survey was six weeks into the start of the Fall 2018 semester which allowed for late enrollee participation in the study (see Tables 4 and 5)

Table 4: *Data Collection Timeline and Protocol*

DATE	RESEARCH DESCRIPTION
4/9/2018	Fall 2018 Registration Begins at ECC
6/4/2018	Request to ECC IR for the list of students. Output: -Student Identifier -Student Email address
6/29/2018	Email sample students via approved email and instrument
7/30/2018	Request to ECC IR for the second list of students. Output: -Student Identifier -Student Email address
8/8/2018	Email sample students via approved email and instrument
8/31/2018	Request to ECC IR for the final list of students. Output: -Student Identifier -Student Email address
9/4/2018	Email sample students via approved email and instrument
9/30/18	Last day for students to respond to TEIQue-SF
11/4/18	Researcher compiled data from Google form and submitted to London Psychometric Lab for analysis. Results were immediately calculated and retrieved by the researcher.

Table 5: *Student Groups and Timeline*

	STUDENTS WHO HAVE REGISTERED FROM:	QUERY REQUEST TO IR	EMAILS SENT TO STUDENTS	NUMBER OF STUDENTS EMAILED	REMINDER EMAILS
Group 1	4/9/18-6/18/18	6/4/2018	6/29/2018	368	8/8/2018
Group 2	6/19/18-7/31/18	7/30/2018	8/8/2018	403	9/12/2018
Group 3	8/1/18-8/31/18	8/31/2018	9/4/2018	296	9/18/2018

### Relationship Study Methodology

The research design was a correlation research design. This design was appropriate as the research study focused on exploring the potential relationship between students' trait emotional intelligence and their ability to successfully complete college coursework in their first term in college. The research problem considered the need for additional assessments to determine academic college readiness, and this research study investigated the value of using students' trait emotional intelligence as one such assessment. The alpha level used to test for statistical significance was established at  $p \leq 0.05$ . The trait emotional intelligence data was collected on a 7-point Likert scale, which represents interval scale data. The student's Fall 2018 GPA and Fall 2018 mathematics and/or English grades collected in this study were ratio level data.

Additionally, a multiple linear regression analysis was used to compute the predictive impact of each trait emotional intelligence level on a student's overall Fall 2018 GPA. The dependent variable within this research question was the student's Fall 2018 overall grade point average. The independent variables were the four trait and one global emotional intelligence levels.

The trait emotional intelligence levels were calculated through the TEIQue-SF instrument. The TEIQue-SF (short form) instrument was developed by the London Psychometric Laboratory (n.d.) as an EI assessment tool. This EI assessment tool was available via the Psychometric Lab's website for educational research purposes. There was no charge for the use of this instrument. This tool was selected for this research study as it is an established measurement tool and validated by the London Psychometric Laboratory.

### Sampling

The population of this research study was recent high school graduates (graduated from high school in December 2017 or May 2018) who completed the admission process (including completion of placement tests or submitted ACT/SAT scores), were 18 years old, and enrolled in Fall 2018 classes at Elgin Community College prior to the research study's enrollment census date of August 31, 2018. The sample for this study were students from the population who completed the TEIQue-SF survey.

A total of 1,067 recent high school graduates who were 18 years of age at the time of the email invitation and enrolled in Fall 2018 courses at Elgin Community College were selected to participate in the TEIQue-SF survey. No other factors were considered to minimize the research pool. A total of 92 students completed the TEIQue-SF instrument, representing an 8.5% response rate. An optional \$25 Amazon gift card random drawing was offered at the end of the instrument to boost student participation. An online, random sampling engine was used to select the winning student and an ECC financial aid staff person notified the student winner to obtain their prize from the office. The winning student was randomly selected on Monday, November 5, 2018 and emailed by Elgin Community College Financial Aid office staff to pick up

the gift card that week. It was successfully acquired by the student by Friday, November 9, 2018.

## **Data Collection Process and Protocols**

### Invitation and Instrument

After receiving approval from the Institutional Review Boards of Ferris State University and Elgin Community College (Appendix A) the researcher sent an email invitation (see Appendix B) to the entire population of recent high school graduates who reached 18-years-old and enrolled at ECC (n=1067), that included a link to the 30-question TEIQue-SF instrument that was adapted to an online Google form for the ease of data extrapolation. At the beginning of the instrument, students received the Informed Consent information, as well as a reminder that they should not continue if they were under the age of 18. Through the survey, the students' level of trait emotional intelligence was measured using the TEIQue-SF instrument. The TEIQue-SF tests for the trait EI four factors and global score (Petrides, 2009b). The computation of each student's trait emotional intelligence was generated through the London Psychometric Laboratory's online scoring engine. The researcher downloaded the student participants' instrument results to an excel sheet through Google forms and uploaded it to the London Psychometric Laboratory's website. All students were listed with a randomly-generated identifier to protect their privacy.

### Additional College Data

For the students in the sample pool, IR compiled their final Fall 2018 overall grade point average, English and/or mathematics final first term grades. ECC's IR department provided an identifier for the student data, allowing the researcher to link the scored TEIQue-SF instruments

to the data. After the two sets of data were linked, all identifiers were stripped from the data file.

### **Limitations of the Study**

There are limitations within this research study which prevent the generalization of the findings to the wider student population.

- The research study was conducted in a one semester timeframe which created a time constraint on the number of students who participated in the study. There was a four- month window for students to receive the participation email and complete the instrument. The researcher encouraged participation during this timeframe via email reminders and students chose to complete the instrument at their convenience. The invited students were new to the ECC student email system which may have delayed some students' access to the survey email.
- The TEIQue-SF instrument was utilized which is a shortened form of the full TEIQue instrument that assesses all 15 facets of trait emotional intelligence (Petrides, 2009b). The TEIQue-SF shortened form was efficient for the researcher to execute the survey instrument. However, the use of the full TEIQue instrument would have provided a deeper look into the various trait emotional intelligence components. The eleven facets not analyzed in this research study may have been more significantly correlated to final first-term GPA, final English course grades, and/or final mathematics course grades.
- Random sampling was not utilized, and students self-selected to participate in the survey.

### **Delimitations of the Study**

The research study elements that were delimited by the researcher were as follows:

- The researcher limited the dependent variables to Fall 2018 grade point average, Fall 2018 mathematics grades, and/or 2018 Fall English grades.
- Data was collected from only one educational institution.
- The researcher chose K.V. Petrides trait emotional intelligence theory as the basis for the research.

- Only students who had reached 18 years of age at the time of the email invitation were asked to participate to eliminate the need for parental consent.
- The researcher did not consider demographic factors of the sample such as enrollment status.
- The researcher has been an employee of Elgin Community College for sixteen years, therefore, data required for this study was convenient and easily accessible.

### **Validity and Reliability**

The research study used a reliable and valid instrument tool, the TEIQue-SF. Data was collected by Elgin Community College's Institutional Research office and TEIQue-SF student results were computed by the London Psychometric Laboratory. Multiple research studies displayed on the London Psychometric Laboratory website (<http://www.psychometriclab.com/>) strengthen the validity of the TEIQue-SF tool as a measurement of trait emotional intelligence. The London Psychometric Laboratory tested the TEIQue instruments for internal consistencies. The Cronbach Alphas were found to be Emotionality = .78, Self-Control = .79, Socialability = .82, Well-Being = .83 for the four factors and Global trait EI to be .90 (Petrides, 2009b). The London Psychometric Laboratory has developed a reliability and validity resource webpage to store evidence of construct validity (London Psychometric Laboratory, n.d.). One trait emotional intelligence study focused on the relationships between trait emotional intelligence and academic performance in an adolescent (Petrides, 2009b). It was found that those students who had high trait emotional intelligence are better able to "deal with the resultant stress and have larger social networks, both of which help reduce the negative impact of anxiety on performance" (p 39). In contrast, students who were lower in trait emotional intelligence found it difficult to deal with anxiety which then negatively impacted academic performance.



Threats to construct validity were mitigated by using the vetted, independent assessment tool TEIQue-SF. A threat to validity is that some students (N=368) who enrolled early were able to respond throughout the four-month research period in the Fall 2018 semester where trait emotional intelligence may have been influenced by the passage of time (maturation) or their early experiences at ECC. However, it is unlikely significant changes occurred in the students' trait emotional intelligence in those four months. Threats to reliability were mitigated through the London Psychometric Laboratory's test-retest studies which demonstrated internal consistencies among subjects' scores where the scores are likely to remain the same unless a life altering event occurs (Petrides, 2009b).

### **Data Analysis**

Students within this study answered the TEIQue-SF instrument questions within a Google form that tracked respondent's answers to the TEIQue-SF. The answers were exported to excel from Google forms with the student's ID and applicable responses. The London Psychometric Laboratory provided an online upload function via their website to collect, conduct analysis, and produce trait emotional intelligence scores back to the researcher. The TEIQue-SF survey results identified the student's strengths in each of the four trait EI factors – emotionality, self-control, sociability, and well-being. The instrument provided a global EI score as well (Petrides, 2009b).

The statistical data analysis was computed using Microsoft Excel and Microsoft Statistical Package for the Social Sciences Grad Pack 25 (SPSS). The mean, median, and mode of all data collected were computed. The statistical analysis of this research study began with a correlation between each of the student's individual trait emotional intelligence levels and

his/her first-semester grade point average. Then, a correlation analysis was computed between the students' trait emotional levels and his/her academic success in English and/or mathematics in Fall 2018. This correlation analysis determined the direction of the data in either a positive or negative relationship to the mean. Then, a Pearson's  $r$  correlation coefficient was computed to determine the strength of the relationship. A correlation analysis was conducted to measure direction and Pearson's  $r$  was used to compute strength of the correlation as well.

The final research question which explored the predictive impact of each trait emotional intelligence level to the student's overall Fall 2018 overall grade point average. A multiple linear regression was computed for each independent variable (four trait emotional intelligence levels and one global level) to summarize the impact on trait emotional intelligence on the dependent variable (final Fall 2018 GPA).

## **Conclusion**

The research problem considered the need for additional assessments to determine academic college readiness, and this research study investigated the value of using students' trait emotional intelligence as one such assessment. The study explored if a statistically significant relationship was present and the impact of trait emotional intelligence to a direct from high school student's first-term college success. Additionally, a regression analysis looked at the predictive impact trait emotional intelligence levels have on students' first semester grade point average.

This study surveyed traditional aged college freshmen's trait EI and performed a correlation to their first term academic success. Currently, community colleges mainly use

standardized placement test scores and ACT/SAT scores as the predictor of a student's ability to be successful in a college level course. Using a correlational research study, the researcher sought to answer whether trait emotional intelligence measurement tools should be considered in addition to current college placement exams in perhaps a multiple measure framework. If a positive correlation exists between trait EI and first term academic success, an argument can be made to consider noncognitive measures in a community college placement framework. Taking into consideration the State of Illinois's very recent policy recommendation to explore multiple measures, this research study's results are instrumental in contributing to the state's placement framework. In chapter 4, the results, findings, and analysis of data collected in this research study are discussed.

## CHAPTER FOUR: FINDINGS, RESULTS, AND ANALYSIS

### **Introduction**

The purpose of this correlation methodology study was to determine if trait emotional intelligence levels are related to first term community college student success. The data retrieved through this study was analyzed using SPSS version 25. Results are provided using descriptive statistics, correlation measurements, logistic regression, and multiple linear regression. The alpha level used to test for statistical significance was established at  $p \leq 0.05$ . The SPSS statistical program runs by default the statistical significance levels at alpha = .05 and alpha = .01 levels for bivariate correlations. The program then reports back any statistical significance found by placing one asterisk (alpha = .05) and/or two asterisks (alpha = .01) next to the output calculation (Kent State University, n.d.). This chapter will explore the findings, results, and provide an analysis of the data collected and studied.

This research study addressed if there were relationships between recent ECC district high school graduates' trait emotional intelligence levels, their cumulative, first semester grade point averages, and their successful completion of first term mathematics and/or English courses. This study sought to add to the college readiness, college entrance assessment, and student success research where supplemental assessments or multiple measures are being explored and analyzed for a more effective course placement methodology for incoming community college students. If trait emotional intelligence was significantly correlated to first term college student success, the use of trait emotional intelligence interventions or training

could be valuable in the high school and community college environment to better prepare students for college.

### **Research Questions**

The following research questions guided the study in determining if trait emotional intelligence was statistically significant when assessing an incoming freshman's academic student success.

### **Correlation Analysis**

- 1) Does a statistically significant independent correlation exist between the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and his/her first semester grade point average?

Hypothesis: A significant, positive correlation exists between each trait emotional intelligence level and the first semester grade point average.

Null Hypothesis: There is no statistically significant correlation between all trait emotional intelligence levels and the first semester grade point average.

- 2) Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester English (the student earned a C or better in any Fall 2018 English course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 English course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between students' trait emotional intelligence levels and successful completion of his/her first semester English course (earning a C or higher).

- 3) Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester in mathematics (the student earned a C or better in any Fall 2018 mathematics course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 mathematics course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between a students' trait emotional intelligence and the successful completion of his/her first semester mathematics grade (earning a C or higher).

#### Multiple Regression Analysis

- 4) What is the independent predictive power of each of the student's four trait and one global emotional intelligence levels in predicting the student's Fall 2018 overall grade point average?

Hypothesis: Each of the five emotional intelligence factors will be significant positive predictors of students' first semester GPA.

Null Hypothesis: There is no predictive value between students' trait emotional intelligence level and their first semester GPA.

#### Data Analysis Methodology

Students within this study answered the London Psychometric Laboratory TEIQue-SF's 30 questions within a Google form that tracked respondent's answers to the instrument. The researcher then exported the answers to Excel from Google forms along with each student's ID and applicable responses. The London Psychometric Laboratory provided an online upload function via their website to collect, conduct analysis, and produce a report with trait emotional intelligence scores back to the researcher. The TEIQue-SF survey results identified each student's strengths in each of the four trait EI factors – emotionality, self-control, sociability, and well-being. The scoring instrument provided a global EI score for each student, as well (Petrides, 2009b).

The statistical data analysis was computed using Microsoft Excel and Microsoft Statistical Package for the Social Sciences Grad Pack 25 (SPSS). The mean, median, and mode of all data collected were computed. The statistical analysis of this research study began with a

correlation between each of the student's individual trait emotional intelligence levels and his/her first-semester cumulative grade point average, final Fall 2018 English grade, and/or final Fall 2018 mathematics grade. This bivariate correlation analysis was conducted to measure direction and Pearson's  $r$  was used to compute statistical significance of the relationship as well.

The final research question which explored the predictive impact of each trait emotional intelligence level to the student's overall Fall 2018 GPA, used a multiple linear regression for each independent variable (four trait emotional intelligence levels and one global level) to summarize the of the predictive impact of trait emotional intelligence on the dependent variable of final Fall 2018 GPA.

### **Descriptive Statistics**

The variables analyzed in this research study were the dependent variables of final Fall 2018 grade point average, the Fall 2018 English course grade, the Fall 2018 mathematics course grade, and the independent variables of trait emotional intelligence levels. The final Fall 2018 English and final Fall 2018 mathematics grades were converted to a point system (A=4; B=3; C=2; D=1; F=0). Tables 6 and 7 provide additional information relating to these variables as it relates to the surveyed students.

Table 6: *Descriptive Statistics of Final Fall 2018 Grade Point Average, Fall 2018 English Course Grades and Fall 2018 English Course Grades*

VARIABLE	N	MEAN	MEDIAN	MODE
Fall 2018 final GPA	84	2.94	3.26	4.00
Fall 2018 English course grade	63	3.16	4.00	4.00
Fall 2018 mathematics course grade	66	2.65	3.00	3.00

Table 7: *Descriptive Statistics of the Trait Emotional Intelligence Levels Reported by Student Respondents*

VARIABLE	N	MEAN	MEDIAN	MODE
Emotionality	92	4.98	5.00	5.00
Self-control	92	4.32	4.17	3.67
Well-being	92	5.06	5.17	5.00
Sociability	92	4.62	4.75	5.00
Global EI	92	4.74	4.73	4.63

The scale of each trait emotional intelligence factor on the TEIQue-SF ranged from 1 to 7. The trait emotional intelligence scores average range was 4.32 to 5.06. The London Psychometric Laboratory does not publish national or international norms of trait emotional intelligence scores and recommends researchers to establish low and high determinations among its sample (London Psychometric Laboratory, n.d.). For a comparison, the London Psychometric Laboratory surveyed 1,721 individuals with an average age of 29.65 years. The TEIQue facets and global EI mean scores ranged from 4.49 to 5.24 (Petrides, 2009b).



The trait emotional intelligence scores computed by the London Psychometric Laboratory are computed through priori scoring and category scores averaged for each factor (Petrides, 2009b). For example, the well-being factor has six items among the thirty questions. The average of the reported scores are calculated by factor. The reported scores are rounded to the fourteenth decimal point, if applicable. As shown in Table 6 and Table 7, the reported mode scores are rounded to the hundredth decimal place.

#### Student Participant Demographics

The student participants in this research study included recent high school graduates from ECC's District 509 area who enrolled in the Fall 2018 term at ECC. All ECC enrolled participants who received a TEIQue-SF survey invitation had reached the age of 18 when they received the email invitation. Throughout the summer and fall of 2018, 1,067 students were emailed an invitation to participate in the research study. From those invited to participate, 92 students completed the TEIQue-SF (n=92). From the 92 student respondents, 6 students responded with an invalid student ID and 2 students did not complete the Fall 2018 term. Of the sampled participants, more females (n=53, 58%) responded to the email invitation and completed the TEIQue-SF survey than males (n=33, 36%). There were 6 students (7%) whose gender is unknown due to an invalid student ID reported on the survey. The average Fall 2018 term grade point average for those who completed the term (n=84) was 2.94.

From the 92 student respondents, 63 (68%) students took an English course in Fall 2018 term. All 63 students enrolled in a college level English course (100-level course or above) from which 57 students (90%) successfully completed the course with a C or better and 6 students

(10%) did not successfully complete the English course. From the 63 students enrolled in college level English, there were 38 females and 25 males in the sample.

From the 92 student respondents, 66 (72%) students took a mathematics course in Fall 2018 term. There were 33 students enrolled in a remedial (less than 100 level) mathematics course (76% successfully completed the course with a C or better) and 33 students enrolled in a college level (100 level or above) mathematics course (91% successfully completed the course with a C or better). Overall, 55 students (83%) successfully completed the course with a C or better and 11 students (17%) did not successfully complete the mathematics course. From the 66 students enrolled in a mathematics course, there were 41 females and 25 males in the sample.

Students who responded to the survey averaged 11.39 credit hours (median = 12 and mode = 13) completed for the Fall 2018 term. The average credit hours completed by all ECC students in Fall 2018 was 5.87 credit hours. There were 9 students in this research study who completed 6 credit hours or less, 21 students who completed between 11 credit hours and 7 credit hours, and 54 students who completed 12 credit hours or more for Fall 2018 term. A full-time student is someone who enrolls in 12 credit hours or more. Approximately 64% of the students who responded to the TEIQue-SF survey were full-time students.

### **Research Study Findings**

This research study found results that supported current literature as well as provided more questions for future research. The research findings provided statistical insight into the correlations and predictability of trait emotional intelligence to academic student success for first term college students whether reviewing their cumulative academic success or individual

student success in an English or mathematics course. There were 92 students who participated in the trait emotional intelligence survey but only 84 respondents were used in the analysis of the first term, final grade point average research questions. Six survey respondents did not provide an accurate student ID which prevented ECC's Institutional Research office from identifying the student's first term results. Two survey respondents did not complete the Fall 2018 term.

#### Research Question #1

Does a statistically significant independent correlation exist between the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and his/her first semester grade point average?

Hypothesis: A significant, positive correlation exists between each trait emotional intelligence level and the first semester grade point average.

Null Hypothesis: There is no statistically significant correlation between all trait emotional intelligence levels and the first semester grade point average.

The researcher computed a bivariate correlation on the study sample (N=84) to determine the existence of a correlation between each trait emotional intelligence level and the student's first term, grade point average.

As shown in Table 8 and in the last row labeled Term GPA (Fall 2018), there was no statistically significant correlation found between the student's first term grade point average and any trait emotional intelligence levels. The bivariate correlation computed the association between all the variables and did not find statistical significance among any of the relevant associations. As predicted, the trait emotional factors are strongly correlated in the correlation shown above and the following computed correlations (Petrides, 2009b).

Table 8: *Pearson r Correlation Between Trait Emotional Intelligence Factors and Fall 2018 Cumulative GPA*

		Well-being	Self-control	Emotionality	Sociability	Global EI	Term GPA (Fall 2018)
Well-being	Pearson Correlation	1	.519*	.513*	.478*	.815*	.125
	Sig. (2-tailed)		.000	.000	.000	.000	.256
Self-control	Pearson Correlation	.519*	1	.405*	.453*	.741*	.013
	Sig. (2-tailed)	.000		.000	.000	.000	.907
Emotionality	Pearson Correlation	.513*	.405*	1	.466*	.774*	.094
	Sig. (2-tailed)	.000	.000		.000	.000	.396
Sociability	Pearson Correlation	.478*	.453*	.466*	1	.754*	.031
	Sig. (2-tailed)	.000	.000	.000		.000	.780
Global EI	Pearson Correlation	.815*	.741*	.774*	.754*	1	.102
	Sig. (2-tailed)	.000	.000	.000	.000		.357
Term GPA (Fall 2018)	Pearson Correlation	.125	.013	.094	.031	.102	1
	Sig. (2-tailed)	.256	.907	.396	.780	.357	

\* Correlation is significant at the 0.01 level (2-tailed).

N=84

## Research Question #2

Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester English (the student earned a C or better in any Fall 2018 English course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 English course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between students' trait emotional intelligence levels and successful completion of his/her first semester English course (earning a C or higher).

In this research study, 57 students (90%) successfully (earned a C or better) completed an English course in Fall 2018 and 6 students did not successfully complete an enrolled English course. The remaining 29 students did not either take an English course in Fall 2018 or their data was not attainable through the Institutional Research office. To perform the bivariate correlation, the researcher created a variable group, entitled English success, with a variable identifier for final English course grades with a C or better and a variable group identifier for the English grades that were D or F.

As shown in Table 9 and in the last row labeled English success, there was no statistically significant correlation found between the student's final Fall 2018 English course grade variable group and any trait emotional intelligence levels. The bivariate correlation computed the association between all the variables and did not find statistical significance among any of the relevant associations. The trait EI factor of emotionality is approaching significance as  $p=.058$ . Perhaps with more sample data, this trait EI factor may indicate statistical significance to a student's first term success in an English course. As emotionality is the ability to perceive and express emotions, it is reasonable to imply those students with higher emotionality may write or comprehend English reading materials with more proficiency and better interpret the author's meaning in a piece of literature.

Table 9: *Pearson Correlation Between Trait Emotional Intelligence Factors and Fall 2018 English Course Grade Variable Group*

		WELL-BEING	SELF-CONTROL	EMOTIONALITY	SOCIABILITY	GLOBAL EI
Well-being	Pearson Correlation	1	.473*	.485*	.490*	.797*
	Sig. (2-tailed)		.000	.000	.000	.000
Self-control	Pearson Correlation	.473*	1	.363*	.486*	.724*
	Sig. (2-tailed)	.000		.003	.000	.000
Emotionality	Pearson Correlation	.485*	.363*	1	.425*	.754*
	Sig. (2-tailed)	.000	.000		.001	.000
Sociability	Pearson Correlation	.490*	.486*	.425*	1	.769*
	Sig. (2-tailed)	.000	.000	.001		.000
Global EI	Pearson Correlation	.797*	.724*	.754*	.769*	1
	Sig. (2-tailed)	.000	.000	.000	.000	
English success	Pearson Correlation	.110	.061	.240	-.017	.132
	Sig. (2-tailed)	.393	.634	.058	.892	.301

\* Correlation is significant at the 0.01 level (2-tailed).

N=63

### Question #3

Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester mathematics (the student earned a C or better in any Fall 2018 mathematics course completed)?

Hypothesis: A significant, positive correlation exists between students' trait emotional intelligence levels and successful Fall 2018 mathematics course completion (earning a C or higher).

Null Hypothesis: There is no statistically significant correlation between a students' trait emotional intelligence and the successful completion of his/her first semester mathematics grade (earning a C or higher).

In this research study, fifty-five students (86%) successfully (earned a C or better) completed a mathematics course in Fall 2018 and 11 students did not successfully complete an

enrolled mathematics course. The remaining 26 students did not either take a mathematics course in Fall 2018 or their data was not attainable through the Institutional Research office.

First, to perform the bivariate correlation, the researcher created a variable group, entitled Mathsucces, with a variable identifier for final mathematics course grades with a C or better and a variable group identifier for the mathematics grades that were D or F. Then, the researcher ran a bivariate correlation model for each of the trait emotional intelligence factors and the variable group.

As shown in Table 10 and in the last row labeled Math success, there was no statistically significant correlation found between the student’s final Fall 2018 mathematics grade variable group and any trait emotional intelligence levels. The bivariate correlation computed the association between all the variables and did not find statistical significance among any of the relevant associations.

Table 10. *Pearson Correlation Between Trait Emotional Intelligence Factors and Fall 2018 Mathematics Grade Variable Group*

		WELL-BEING	SELF-CONTROL	EMOTIONALITY	SOCIABILITY	GLOBAL EI
Well-being	Pearson Correlation	1	.507*	.510*	.498*	.824*
	Sig. (2-tailed)		.000	.000	.000	.000
Self-control	Pearson Correlation	.507*	1	.344*	.438*	.719*
	Sig. (2-tailed)	.000		.005	.000	.000
Emotionality	Pearson Correlation	.510*	.344*	1	.480*	.760*
	Sig. (2-tailed)	.000	.005		.000	.000
Sociability	Pearson Correlation	.498*	.438*	.480*	1	.764*
	Sig. (2-tailed)	.000	.000	.000		.000
Global EI	Pearson Correlation	.824*	.719*	.760*	.764*	1
	Sig. (2-tailed)	.000	.000	.000	.000	
Math success	Pearson Correlation	.149	.045	.100	.000	.107
	Sig. (2-tailed)	.231	.722	.423	1	.394

\* Correlation is significant at the 0.01 level (2-tailed).

N=66

#### Research Question #4

What is the independent predictive power of each of student's four trait and one global emotional intelligence levels in predicting the student's Fall 2018 overall grade point average?

Hypothesis: Each of the five emotional intelligence factors will be significant positive predictors of students' first semester GPA.

Null Hypothesis: There is no predictive value between students' trait emotional intelligence level and their first semester GPA.

As shown Table 11, the researcher ran a multiple linear regression even though no statistical significance existed in the previous correlations. As expected, no statistical significance was found in the regression calculation as shown in the last column in the table.

Table 11: *Linear Regression Computer with Dependent Variable of Fall 2018 GPA and Independent Variables of Trait Emotional Intelligence Levels*

	UNSTANDARDIZED B	COEFFICIENTS STD. ERROR	STANDARDIZED COEFFICIENTS BETA	T	SIG.
Constant	2.470	.674		3.663	.000
Well-being	-.142	.303	-.166	-.470	.640
Self-control	-.325	.292	-.330	-1.113	.269
Emotionality	-.246	.350	-.239	-.702	.485
Sociability	-.302	.304	-.306	-.993	.324
Global EI	1.100	1.129	.897	.974	.333

#### Analysis and Implications of the Results

##### Research Question #1

Does a statistically significant independent correlation exist between the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and his/her first semester, grade point average?



Pearson correlations were computed for each of the trait emotional intelligence factors and the student's first semester grade point average for Fall 2018. As evident in Figure 1, there was no statistically significant correlation between any of the factors and the student's Fall 2018 grade point average. The lack of statistical significance indicated there is no relationship between trait emotional intelligence variables and Fall 2018 grade point average. It is important to note the low survey response rate of 84 students who completed the Fall 2018 term may have impacted the result of a large p-value. The researcher cannot reject the null hypothesis.

#### Research Question #2

Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being, and global) and successful completion of his/her first semester English (the student earned a C or better in any Fall 2018 English course completed)?

As evident in Figure 2, no correlations between the students' trait emotional intelligence levels and successful completion in English were statistically significant. The lack of statistical significance prevented the differences between the variables to be explained other than chance. It is important to note the low survey response rate of 63 students and completed a Fall 2018 English course may have impacted the result of a large p-value. The researcher cannot reject the null hypothesis.

#### Question #3

Does a statistically significant independent correlation exist between each of the student's trait emotional intelligence levels (emotionality, self-control, sociability, well-being,

and global) and successful completion of his/her first semester mathematics (the student earned a C or better in any Fall 2018 mathematics course completed)?

As evident in Figure 3, no correlations between the students' trait emotional intelligence levels and successful completion in mathematics were statistically significant. The lack of statistical significance prevented the differences between the variables to be explained other than chance. It is important to note the low survey response rate of 66 students and completed a Fall 2018 mathematics course may have impacted the result of a large p-value. The researcher cannot reject the null hypothesis.

Since 33 students out of the 66 students who completed a mathematics course were placed in a Fall 2018 remedial mathematics course, the researcher ran an ad hoc bivariate correlation for only those students in developmental mathematics and the trait emotional intelligence factors. As research literature has computed statistical significance between lower IQ and trait EI factors, the researcher computed this correlation between the study's variables. No statistical significance existed in this correlation analysis. However, the p-value may have been impacted by the small sample size (n=33).

#### Research Question #4

What is the independent predictive power of each of student's four trait and one global emotional intelligence levels in predicting the student's Fall 2018 overall grade point average?

As no statistically significant correlations existed between the variables in previous research questions, a multiple linear regression analysis is unnecessary. The researcher cannot reject the null hypothesis.

## Sample Size and Comparison to Non-Participants

This research study methodology focused on those students who recently graduated from high school and enrolled at ECC for Fall 2018. The researcher invited 1,067 students via email to participate in the research study. By the end of the research collection timeframe, 92 students had responded to the TEIQue-SF survey. According to some statistical models, the 8.6% response rate is not a large enough whereas a sample size of 194 would have provided more accurate results and prevented large p-values (University of California, San Francisco, 2018). However, this research study's response rate is typical for Elgin Community College students and voluntary online survey response rates are typically biased towards higher academic achievers as was observed in this research study (D. Rudden, personal communication, February 4, 2019).

Nevertheless, it is important to examine not only the data received from students who responded but also those students who did not respond to the TEIQue-SF survey to determine if the research study's anticipated results may have been found in the non-participating student pool. There were 976 students (6 students responded to the TEIQue-SF survey were unidentifiable) who did not respond to the email invitation to participate in this research study. The Fall 2018 final grade point average, Fall 2018 English grade, and/or Fall 2018 mathematics grades were gathered for each non-participant and a *t*-test was calculated between the 84 student participants and the 976 student non-participants.

Based upon the *t*-test calculation shown in Table 12, there is a statistical significance between the means of the student participants and the non-participants as  $p < .05$ . Therefore, analysis of additional students within this research study may have been beneficial towards

rejecting the null hypothesis within the research questions. Since the *t*-test results show a difference between the groups, the correlation results may have produced an alternate conclusion with a larger number of participants.

Table 12: *T-test Between Participant and Non-Participant Means – Fall 2018 GPA*

FALL 2018 GRADE POINT AVERAGE	N SIZE	MEAN
Participant	84	2.94
Non-participant	976	2.26
	<i>t</i> -value	Sig.
Equal Variances Assumed	4.682	.000
Equal Variances Not Assumed	5.685	.000

Based upon the *t*-test calculation shown in Table 13, there is a statistical significance between the means of the student participants and the non-participants as  $p < .05$ . Therefore, analysis of additional students within this research study may have been beneficial towards rejecting the null hypothesis within the research questions. Since the *t*-test results show a difference between the groups, the correlation results may have produced an alternate conclusion.

Table 13: *T-test Between Participant and Non-Participant Means – Fall 2018 English Course Grade*

FALL 2018 ENGLISH COURSE GRADE	N SIZE	MEAN
Participant	63	3.16
Non-participant	690	2.58
	<i>t</i> -value	Sig.
Equal Variances Assumed	3.372	.001
Equal Variances Not Assumed	3.698	.000

Based upon the *t*-test calculation shown in Table 14, there is no statistical significance between the means of the student participants and the non-participants as  $p > .05$ . Therefore, analysis of additional students within this research study may not have been beneficial towards rejecting the null hypothesis. The means of the participant and non-participant groups are not statistically different to further analyze the correlation of trait emotional intelligence factors to final mathematics course grades. Additionally, there may not be enough statistical power within the current dataset to reject the null hypothesis which may require a methodology redesign for researching mathematics course success.

Table 14: *T-test Between Participant and Non-Participant Means – Fall 2018 Mathematics Course Grade*

FALL 2018 MATHEMATICS COURSE GRADE	N SIZE	MEAN
Participant	66	2.65
Non-participant	585	2.33
	<i>t</i> -value	Sig.
Equal Variances Assumed	1.875	.061
Equal Variances Not Assumed	1.938	.056

## Conclusion

The findings of this research study did not support the researcher’s hypothesis of the impact trait emotional intelligence levels would have on evaluating and predicting first term in college student’s academic success and overall grade point average. However, there were valuable pieces of data that were obtained through each calculation that can provide insight to how trait emotional intelligence may contribute to a recent high school graduate’s academic college readiness preparedness.

As shown in the research study by Petrides et al. (2004), higher trait emotional intelligence levels were associated with academic performance but mainly in the relationship with students with lower IQ scores (p. 287). A student who may not have the intellectual capacity may draw on other personality factors such as trait emotional intelligence to achieve academic success (Petrides et al., 2004). The student sample in this research study had an average high school grade point average of 3.39, all those in English courses were placed college ready, and their final Fall 2018 grade point average was 2.94. Additionally, the average trait emotional intelligence scores ranged from 4.32 to 5.06 which are above the mid-point on a 7-point Likert scale. The students individually chose to respond to the email invitation where a random sample may have produced different correlation results. A *t*-test was performed to compare the student survey respondents to those who chose not to participate. In reflection of Petrides, Frederickson, and Furnham's study in the context of this research study, the first-year college student respondents demonstrated a higher level of academic performance and mid-level trait emotional intelligence scores which could assist in explaining the lack of statistical significance of the non-random group.

## CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

### **Introduction**

Community colleges have been viewed as a place where the freshman and sophomore students could begin their college experience, enroll in general education courses, or complete vocational training for students looking to gain swift employment (Cohen et al., 2014). More recently, community colleges have needed to be agile in their program offerings, student support services, and overall structure to respond to a variety of students' needs, societal challenges, and rising costs of education with decreased funding from state governments (Cohen et al., 2014). As the response center to multiple societal issues, higher education has begun analyzing and reimagining how today's youth can gain the skills needed to successfully complete a postsecondary degree and become gainfully employed to face life's challenges. Students' success begins with accurate placement into the courses that will be guide them into a degree or credential. Up to two-thirds of students in remedial education courses fail to complete the entire sequence of courses to bridge them into college-level coursework (Belfield & Crosta, 2012). This significant amount of attrition requires a reexamination of college placement practices and academic college readiness standards.

One area of education innovation over the past several decades has focused on increasing access and preparing all high school students for postsecondary education. Making college accessible to all students has required an increased focus on accurately defining college ready skills and improved strategies to develop those skills in all students. Conley defined

college readiness as a student who is deemed ready for college level courses without taking remedial coursework (Conley 2012).

Currently, students are mainly assessed for college readiness through academic content measurement tools such as the ACT and College Board's SAT and Accuplacer. However, the predictive value of widely used academic-focused assessments used within community colleges have come under scrutiny whereas alternative methods such as multiple measures are being explored at the state and local levels of secondary and post-secondary education. For example, in 2017, ten Minnesota and Wisconsin community colleges participated in a pilot program to determine if using a multiple measures methodology for course placement would impact student's momentum in college completion. The colleges had students take the historical placement test as well as use the multiple measures. The results of this study were significant. Only 29% of the students tested under the old methodology were placed in college-level mathematics. Under the multiple measures methodology, this figure increased to 56% of the students. Only 57% of the students who tested with the historical placement tests were placed into college-level English. Under the multiple measures methodology, this figure increased to 74%. This research study did not report on the student success outcomes using multiple measures, however, many students no longer needed to climb out of the developmental education sequence due to this instrumental change in placement (Cullinan et al., 2018).

This quantitative research study sought to determine whether a relationship existed between recent high school graduates' trait emotional intelligence levels (independent variables), and the students' success in their first term of college as measured using their final cumulative academic grade point average earned (dependent variable) and their final grades in



mathematics and/or English (dependent variables). The available student population was comprised of all recent high school graduates who enrolled in Fall 2018 ECC courses (N=1,067). The students included in the study/respondents (N=92) completed the TEIQue-SF survey and correlations and regression analyses were performed to determine relationships, statistical significance, and predictive power of the independent variables to the dependent variables.

The results outlined in Chapter 4 showed no statistical significance of any correlations performed between the independent to the dependent variables. Without statistical significance, the small response rate, and the lack of random sampling, it is unreasonable to generalize this study to the entire population.

### **Contribution to the Research**

Chapter 2 outlined the research literature that supported the background of the community college history, college readiness theories, first-year student success, completion agendas, emotional intelligence, and community college placement practices. Throughout the literature, the importance of students' academic and non-academic college preparedness is stated in various models and post-secondary contexts. Conley stated that the key facets to a student's overall college readiness included cognitive skills, academic knowledge supported by critical thinking, problem solving, self-awareness, and other key non-cognitive abilities (Conley, 2010). In this research study, ECC first term students were surveyed for their self-perceived trait emotional intelligence levels of well-being, emotionality, self-control, sociability, and their global factors. These five factors align with Conley's model which include skills such as self-awareness and self-monitoring. Despite the lack of statistical significance in the correlations between the study's participants' trait EI factors and their academic success, it was noted that

the students' average trait EI levels were above the midpoint (ranging from 4.32 to 5.06) and their average final Fall 2018 grade point average of 2.94 which was relatively high. These data elements show a possible higher amount of academic college readiness and trait EI attributes. Furthermore, the students who chose not to participate in the research study were compared to the students who selected to participate in the trait emotional intelligence survey using a *t*-test. The *t*-test found that there was a statistical significance between the two groups overall grade point average means and including more student participants into the research may have led to a more representative sample. In addition, the student response size is a small sample size which impacted the statistical power of the research findings.

This research study also contributed to the trait emotional intelligence research finding present in the literature outlined in Chapter 2. Trait emotional intelligence is the “constellation of emotional perceptions assessed through questionnaires and rating scales” (London Psychometric Laboratory, n.d.). Petrides (2009b) found that the four factors (well-being, sociability, self-control, emotionality) are intercorrelated and argues that the validity of one's self-perceptions in trait EI does not depend upon the existence of correlations to other ratings (e.g., academic grade point average). Trait EI levels and other descriptive statistics found in this research study provide an opportunity for college administrators to discuss first-year college students' core personality traits in the context of student success.

In this research study, the results did not produce any statistically significant correlations between trait emotional intelligence factors and first-year academic success. As previously discussed, the sample size limitations prevented an accurate calculation of trait EI correlation to academic success. Yet, it is important to note that the average final English

course grade for the sample was 3.16 and the average final mathematics course grade was 2.65 (see Appendix C) which are both deemed academically successful. As noted in the *t-test*, there are statistical significance between the means of the participating students and those who did not participate in the research study except for the *t-test* for Fall 2018 mathematics course grades. Expansion of the research response rate would be valuable for some areas in future research. Additionally, other variables were not considered in the design of this research study. Petrides et al.'s (2004) research outcome demonstrated that the student's intellectual capacity was an important variable to consider in a correlation to trait emotional intelligence (p. 287). The student who may not have the intellectual capacity may draw on other personality factors such as trait emotional intelligence to achieve academic success (Petrides et al., 2004). Factors such as enrollment status, placement test policies and scores, high school grade point average, and socio-economic background may also impact student success and correlate to the students' trait emotional intelligence and should be considered in future research.

### **Understanding of the Findings**

This quantitative research study sought to analyze the relationship between recent high school graduates who enroll as first-term college students' trait emotional intelligence and their first term academic success. The research purpose was to consider additional assessments to determine academic college readiness, and this research study investigated the value of using students' trait emotional intelligence as one such assessment. The researcher wanted to add to the research literature on multiple placement measures such as utilizing high school grade point average, various standardized test scores, non-cognitive assessments, and career endorsements earned while in high school (Illinois Community College Board, 2017). The

findings of this research study did not support the hypotheses outlined in Chapter 3, however, future research using larger pools of students, incorporating all fifteen trait emotional intelligence facets or focusing on certain student populations (e.g., students who place into developmental education) may provide additional insight.

#### Finding #1

In a more expanded study, trait emotional intelligence may positively impact a student's academic success in the first term of college.

In research question #1, the study looked for correlations between the students' trait emotional intelligence levels and their final first-term grade point average. The analysis results did not find any statistically significant correlation.

In this study, 84 first-time in college students completed an average of 11 credit hours for Fall 2018 with a successful average grade point average of 2.94. The student participants were self-selected and proved to be higher academically. Studies have shown statistically significant correlations with students who are lower academically and their trait EI. (Petrides et al., 2004). The students who participated and the small amount of survey response may have impacted the results. The transition from the high school environment to college can be difficult personally and academically. Students struggle to understand the expectations of their college instructors and navigate family or peer pressures during their first term in college which requires them to know themselves to seek support and assistance (Venezia & Jaeger, 2013). The average trait emotional intelligence levels for all students computed for each factor in the study were above the midpoint (see Appendix C) which contributes to the literature that a student's self-awareness may support their academic success. As in Conley's college readiness

model, it is important for post-secondary institutions to continue their college readiness efforts with K-12 systems to educate young students in building college knowledge and similarly the students' trait emotional intelligence skills such as perceiving emotions, controlling impulses, building healthy relationships, and gaining personal fulfillment (Petrides, 2009a).

## Results #2

Trait emotional intelligence may positively impact a student's success in development education.

In this research study, 66 students were enrolled in a Fall 2018 mathematics course. Thirty-three students were placed in developmental level mathematics for Fall term. Of those 33 students, the average final grade in their mathematics course was 2.48 (students in a college level mathematics course achieved an average final grade of 2.81) which demonstrates successful completion of the course. There was no statistically significant correlation between students' success in mathematics and/or English courses and their trait EI. Furthermore, no statistically significant correlation existed between the 33 developmental mathematics students and the students' trait EI. Yet, it is interesting to note that out of the 66 students enrolled in mathematics, 33 were in developmental coursework while no participating students were enrolled in developmental English for Fall 2018 term. As the students completed unique placement tests to determine their academic college readiness for both English and mathematics, it is valuable for future research to examine if the students would have been deemed college ready in mathematics if multiple measures were used versus only placement tests.

With the known developmental education research stating students in developmental courses are less likely to persist from year-to-year and less likely to avoid costly student loan debt (Ngo & Kwon, 2014), the attention to appropriately placing students in courses is critical to student success. In a study conducted at Los Angeles Community College District, it was found that high school grade point averages in conjunction with prior math were the strongest variables to successfully place students in mathematics. In this research study, with half of the sampled students who enrolled in mathematics being placed into the developmental level, it is curious to unveil the placement decisions (i.e., ACT/SAT scores, Algebra II grades) for these overall academically strong students. Nevertheless, these 33 students aggregately earned a successful average final grade and reported above midpoint levels of trait emotional intelligence. (Well-being = 5.06; Self-control = 4.17; Emotionality = 5.05; Sociability = 4.32; Global EI = 4.64). In a 2017 study conducted at Joliet Junior College, it was found that a statistically significant positive correlation existed between students' trait emotional intelligence factor of self-awareness, self-regulation, and motivation and the students' ability to pass a developmental English course (Vanderhyden, 2017). The sample size was slightly larger (N=71) but the trait EI instrument was designed by the researcher and not by a trait EI research laboratory. The researcher found trait emotional intelligence elements of self-regulation and motivation were the strongest predictors of a student's ability to pass developmental English (Vanderhyden, 2017). This 2017 research study supports further analysis of developmental education due to the statistically significant correlation result.

### Finding #3

In this study, the use of trait emotional intelligence alone as a placement measure does not predict overall academic student success.

In research question #4, the independent predictive power through a linear regression was performed and no statistically significant coefficient was computed for the trait emotional intelligence factors to first-term grade point average. The lack of statistical significance may be due to the small sample size, but descriptive statistics of the sample provided insight into the research on college readiness. The 84 students who completed the Fall 2018 term earned an average grade point average of 2.94. Of these 84 students, 80 students reported their high school grade point average which was an average of 3.39. Therefore, it is reasonable to state these students were aggregately high academic performing students as they matriculated into Elgin Community College. Research has found that high school transcripts not only show high school academic scores but a student's demonstration of effort and other college readiness factors (Belfield & Crosta, 2012). In a statistical analysis conducted by the Community College Research Center, high school grade point average was a statistically significant predictor of the student's academic success in college. If a student earned an A average in high school, the student's predicted college GPA after three to five semesters will be 3.3. This study reported students' college average GPA is approximately .6 units below their high school GPA (Belfield & Crosta, 2012). The average final English grade for the sampled students was 3.16 and the average final mathematics grade for the sampled students was 2.65 which in aggregate average a higher performing college student. Despite the lack of statistical significance, the participating students demonstrated academic success.

## **Recommendations for Future Research**

This research study analyzed the relationships between trait emotional intelligence and a first-term college student's academic success and college readiness. Trait emotional intelligence research has suggested that higher trait EI students who begin lower in academic standing earn higher academic scores than those students who begin in stronger academic standing (Petrides et al., 2004). The current study focused on all recent high school graduates as they matriculated into Elgin Community College without segregation of academic standing. The average high school grade point average for the students who responded was 3.39 which signals a sample of high achieving academic students. Petrides et al.'s (2004) research outcome demonstrated that the student's intellectual capacity was an important variable to consider in a correlation to trait emotional intelligence (p. 287). The student who may not have the intellectual capacity may draw on other personality factors such as trait emotional intelligence to achieve academic success (Petrides et al., 2004). Further research into the relationships between trait emotional intelligence and students' success should separate students' academic standing as part of the research study.

Additionally, the use of multiple measures for placement of students in college level coursework remains to be analyzed and researched throughout community colleges. Despite the lack of statistical significance of correlation or predictive power of trait emotional intelligence alone to students' overall success in their first term in college, some of the students who responded to the survey who presented overall high academic achievement in high school still required developmental mathematics course placement (HS GPA = 3.14). Further research should be conducted into how the use of standardized test scores, high school grade point



average, and non-cognitive measures such as trait emotional intelligence levels together can better place students into their courses and lead to success. Trait emotional intelligence instruments explain a student's perspective on their personality and who they are as a person which lends better to predicting students' resiliency and perseverance towards student success (Petrides et al., 2007). This future study should be conducted using a longitudinal methodology where students' academic scores, persistence, and completion is analyzed along with their trait emotional intelligence levels throughout their time pursuing a college credential.

The response rate for this study was low and may have impacted the results of the research questions. Further research could be conducted across multiple institutions and be conducted by the colleges themselves as part of the normal placement process to almost mandate broader participation and larger response rates to better measure the correlations and coefficients between trait emotional intelligence levels and academic success.

Furthermore, the use of random sampling would remove the self-selection variable and the threat to the findings. Random sampling better represents the larger population and leads to stronger interpretations about the population. As demonstrated in the *t*-test results, the use of a larger sample size may provide more statistically significant results. This assessment can be conducted as students matriculate into the college, during high school college readiness outreach efforts, and in the college classroom. Additionally, future research could expand the stratification of community college students to include various ethnic, socioeconomic, and second year students.

## **Conclusion**

Community colleges across the nation are faced with multiple challenges ranging from limited financial resources, producing a skilled workforce, and providing an affordable education in a very scrutinized environment. Students leaving high school today now have options to either join the workforce, directly enter the university setting, or enroll in a community college. Historically, the process of student placement into college level courses has been grounded in standardized placement test scores. However, after multiple research findings, community colleges are slowly embracing a more holistic view of assessing students' potential to successfully complete college level coursework.

With decades of college readiness theories explored and research supporting the need for colleges to embed evaluation and support into the college matriculation process, it remains a difficult effort for community colleges to implement on a grander scale. Early college programs with high school interventions promote not only academic preparation, but also social and emotional skills needed to be successful in college (Venezia & Jaeger, 2013). The support theories built in these programs have parallels to trait emotional intelligence factors. Despite these programs' proven success, funding and human resources are limited to provide greater impact to incoming freshman college students. These support programs have demonstrated success over the decades but remain outside of the core function of the community college. Future research can envelope some of these successful college readiness interventions to further develop multiple measure standards and more accurately place students in college level coursework.

This research study sought to determine whether a relationship exists between trait emotional intelligence levels and first college term academic student success. Despite the lack of statistically significant correlations and predictive power between trait emotional intelligence levels and first term academic success in this studied sample, future research of trait emotional intelligence attributes and their potential value in multiple measures of placement remains to be determined. With an expanded research sample, the review of a student's academic achievement history, and a more embedded college-wide process to measure students' trait EI scores, there is potential for trait emotional intelligence measurement to directly impact college readiness, placement standards, and students' overall success.

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## APPENDIX A: IRB APPROVAL LETTERS



Date: February 22, 2018

To: Sandra Balkema

From: Gregory Wellman, R.Ph, Ph.D, IRB Chair

Re: IRB Application *IRB-FY17-18-87 Relationships between Emotional Intelligence, College Readiness, and First Year Student Success*

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, *Relationships between Emotional Intelligence, College Readiness, and First Year Student Success*(IRB-FY17-18-87) and approved this project under Federal Regulations Exempt Category 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

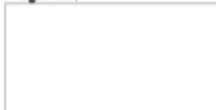
Approval follows the expiration awarded by Elgin Community College IRB. **As such, you may collect data according to the procedures outlined in your application until December 31, 2018** . Should additional time be needed to conduct your approved study, a request for extension must be submitted to the IRB a month prior to its expiration.

Your protocol has been assigned project number IRB-FY17-18-87. Approval mandates that you follow all University policy and procedures, in addition to applicable governmental regulations. Approval applies only to the activities described in the protocol submission; should revisions need to be made, all materials must be approved by the IRB prior to initiation. In addition, the IRB must be made aware of any serious and unexpected and/or unanticipated adverse events as well as complaints and non-compliance issues.

This project has been granted a waiver of consent documentation; signatures of participants need not be collected. Although not documented, informed consent is a process beginning with a description of the study and participant rights, with the assurance of participant understanding. Informed consent must be provided, even when documentation is waived, and continue throughout the study via a dialogue between the researcher and research participant.

As mandated by Title 45 Code of Federal Regulations, Part 46 (45 CFR 46) the IRB requires submission of annual reviews during the life of the research project and a Final Report Form upon study completion. Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,



A handwritten signature in black ink, appearing to read "Gregory Wellman".

Gregory Wellman, R.Ph, Ph.D, IRB Chair  
Ferris State University Institutional Review Board  
Office of Research and Sponsored Programs



January 29, 2018

Kimberly Wagner  
Executive Director of Student Financial Services & Auxiliary Enterprises  
Elgin Community College

Dear Ms. Wagner,

Thank you for submitting a research proposal *Relationships between Emotional Intelligence, College Readiness, and First Year Student Success* to the Institutional Review Board (IRB) at Elgin Community College. This letter serves as notification that the proposed study as described in your materials **has been approved** and found to fulfill all necessary ethical requirements for human participants. Any substantive changes to the procedures or instruments described in your materials will need to be resubmitted for IRB review.

My office will coordinate dissemination of the survey invitation and link to the students you intend to target. As described, these include students who are enrolled in the fall 2018 semester, who graduated from high school the prior year, and who are 18 years of age or older at the time the invitation is sent. Once survey responses are obtained, my office will append the fields you request for analysis using a unique identifier that the respondents will provide.

As you carry out your work, please adhere to the following IRB conditions:

1. Your timeframe for data collection is limited from **April 1, 2018 to December 31, 2018**. If activity is expected to continue after this date, please initiate continuing review of your project through my office.
2. IRB approval does not waive the right of any participant affiliated with your projects (e.g., participant, co-investigator, etc.) to opt out of participation at any time and without consequence.
3. Please do not refer to Elgin Community College by name in your final report and take efforts to protect its identity.
4. Upon completion, please provide my office with a report.

If you have any questions or concerns, please do not hesitate to contact me. Best wishes for success with this research, and I look forward to hearing about the outcome of your study.

Sincerely,

A handwritten signature in black ink that reads "Philip Garber".

Philip Garber, PhD  
IRB Chair  
Senior Executive Director of Planning and Institutional Effectiveness  
Phone: (847) 214-7285  
Fax: (847) 608-5483  
pgarber@elgin.edu

Our Mission  
*To Improve People's Lives Through Learning*

APPENDIX B: EMAIL INVITATION, ONLINE SURVEY, AND INFORMED CONSENT

## EMAIL INVITATION

Dear Elgin Community College Student,

I am an employee at Elgin Community College in the Student Financial Services office and am also a student in the Doctorate in Community College Leadership (DCCL) program at Ferris State University in Michigan.

I am working on a dissertation project researching trait emotional intelligence levels in first-year college students — like you! Trait Emotional Intelligence (Trait EI) is the ability we have to recognize our and others' emotions and manage or adjust our own emotions to achieve our goals. The results of my study could affect some of the support services that community colleges, like Elgin, provide for students.

I am contacting you to see if you would be willing to answer a series of questions about your trait emotional intelligence in a brief online survey. The survey has 30 questions and should take you about 10-15 minutes to complete. If you complete the survey, you will be entered into a drawing for a \$25 Amazon gift card.

Your participation in this study is voluntary and completely anonymous. When you complete the survey, your Elgin Community College student ID number will be used to compile the initial data, and then will be stripped from the data for analysis.

If you have any questions, please give me a call at 630-212-8711 or send an email to [wagnek14@ferris.edu](mailto:wagnek14@ferris.edu). You may also contact my faculty research advisor, Dr Sandra Balkema ([balkemas@ferris.edu](mailto:balkemas@ferris.edu)) if you have questions.

If you are willing to participate, please click the link below — this will take you to the survey. The final screen asks for contact information for the gift card drawing.

[INSERT LINK HERE]

Thank you for your help!

Kimberly Wagner

## ONLINE SURVEY AND INFORMED CONSENT

### EMOTIONAL INTELLIGENCE ASSESSMENT

Thank you! —

for agreeing to participate in a research study about correlation between trait emotional intelligence and first-year academic success.

Taking part in this study is completely voluntary.

You have been selected to participate in this study because you are a first-year Elgin Community College student.

By continuing with this survey, you are stating your agreement with the following:

- I am over the age of 18.
- I understand that my participation will consist of completing an online survey lasting approximately 10 to 15 minutes.
- I understand I may exit the survey at any time and none of my responses will be recorded.
- I understand that my participation or non-participation in this study will not impact my relationship with Elgin Community College in any way.
- I understand that by completing the survey, I will be entered into a drawing for a \$25 Amazon gift card and will be contacted if my name is selected.

If you are under 18, please do not continue.

Please review the following information about the study before you begin:

- There are no known risks associated with this study.
- This research is designed to examine emotional intelligence levels of first-year students and how it correlates to college readiness and first-year academic success.
- Reviewing this information before you participate in the study gives the researcher your permission to obtain, use, and share your responses.
- The results of this study will be published in the researcher's dissertation, and could be published in an article or used in professional presentations, but would not include any information that would identify you.
- Outside individuals, other than the researcher, may need to see the information you provided as part of the study, but only to ensure that the research was conducted safely and properly, including Ferris State University.
- To keep your information safe, the researcher will protect your anonymity and maintain your confidentiality. Once the data have been collected, all personal identifiers (such as your Elgin student ID number) will be removed and the data you provide will be used without personal identifiers of any kind. The data will not be



made available to other researchers for other studies following the completion of this research study.

#### Contact Information

The main researcher conducting this study is Kimberly Wagner, a doctoral student at Ferris State University. If you have any questions you may email her at [wagnek14@ferris.edu](mailto:wagnek14@ferris.edu) or call 630-212-8711. You may also contact the researcher's faculty advisor, Dr Sandra Balkema, a faculty member at Ferris State University ([balkemas@ferris.edu](mailto:balkemas@ferris.edu)).

If you have any questions or concerns about your rights as a subject in this study, please contact Ferris State University Institutional Review Board (IRB) for Human Participants, 1010 Campus Drive, FLITE 410D, Big Rapids, MI 49307, (231) 591-2553, [IRB@ferris.edu](mailto:IRB@ferris.edu). . Or you may contact Elgin Community College Planning & Institutional Effectiveness office, 1700 Spartan Drive, Elgin, IL 60123, (847) 697-1000.

By continuing with the survey, you are indicating your consent to participate in this research study. You may print or save a copy of this page for your records.

## **Emotional Intelligence Assessment (TEIQue-SF)**

Please answer each statement below by marking the number that best reflects your degree of agreement or disagreement with that statement. Do not think too long about the exact meaning of the statements. Work quickly and try to answer as accurately as possible. There are no right or wrong answers. There are seven possible responses to each statement ranging from "Completely Disagree" (number 1) to "Completely Agree" (number 7).

Elgin Community College Student ID Number \*

Your answer \_\_\_\_\_

1. Expressing my emotions with words is not a problem for me. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

2. I often find it difficult to see things from another person's viewpoint. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

3. On the whole, I'm a highly motivated person. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

4. I usually find it difficult to regulate my emotions. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

5. I generally don't find life enjoyable. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

6. I can deal effectively with people. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

7. I tend to change my mind frequently. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

8. Many times, I can't figure out what emotion I'm feeling. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

9. I feel that I have a number of good qualities. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

10. I often find it difficult to stand up for my rights. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

11. I'm usually able to influence the way other people feel. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

12. On the whole, I have a gloomy perspective on most things. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

13. Those close to me often complain that I don't treat them right. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

14. I often find it difficult to adjust my life according to the circumstances. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

15. On the whole, I'm able to deal with stress. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

16. I often find it difficult to show my affection to those close to me. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

17. I'm normally able to "get into someone's shoes" and experience their emotions. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

18. I normally find it difficult to keep myself motivated. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

19. I'm usually able to find ways to control my emotions when I want to. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

20. On the whole, I'm pleased with my life. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

21. I would describe myself as a good negotiator. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

22. I tend to get involved in things I later wish I could get out of. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

23. I often pause and think about my feelings. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

24. I believe I'm full of personal strengths. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

25. I tend to "back down" even if I know I'm right. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

26. I don't seem to have any power at all over other people's feelings. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

27. I generally believe that things will work out fine in my life. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

28. I find it difficult to bond well even with those close to me. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

29. Generally, I'm able to adapt to new environments. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

30. Others admire me for being relaxed. \*

	1	2	3	4	5	6	7	
Completely Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Agree

If you would like to be entered to win the \$25 Amazon card, please enter your phone number to be notified if you win.

Your answer \_\_\_\_\_

**Thank you for your participation!**

### Reference

Petrides, K. V. (2009). Psychometric properties of the Trait Emotional Intelligence Questionnaire. In C. Stough, D. H. Saklofske, and J. D. Parker, *Advances in the assessment of emotional intelligence*. New York: Springer. DOI: 10.1007/978-0-387-88370-0\_5

APPENDIX C: RESEARCH DATA

Final Fall 2018 Grade Point Average Frequencies, Trait Emotional Intelligence Levels  
Frequencies, and Fall 2018 Mathematics and English Course Grades

**Term GPA (Fall 2018)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.0000000000000000	4	4.3	4.8	4.8
	.4000000000000000	1	1.1	1.2	6.0
	1.0000000000000000	1	1.1	1.2	7.1
	1.230769230769231	1	1.1	1.2	8.3
	1.333333333333333	1	1.1	1.2	9.5
	1.363636363636364	1	1.1	1.2	10.7
	1.5000000000000000	1	1.1	1.2	11.9
	1.666666666666667	1	1.1	1.2	13.1
	1.9375000000000000	1	1.1	1.2	14.3
	2.0000000000000000	5	5.4	6.0	20.2
	2.076923076923077	1	1.1	1.2	21.4
	2.222222222222222	1	1.1	1.2	22.6
	2.461538461538462	1	1.1	1.2	23.8
	2.666666666666667	3	3.3	3.6	27.4
	2.7000000000000000	1	1.1	1.2	28.6
	2.8750000000000000	1	1.1	1.2	29.8
	3.0000000000000000	12	13.0	14.3	44.0
	3.076923076923077	1	1.1	1.2	45.2
	3.153846153846154	1	1.1	1.2	46.4
	3.1875000000000000	1	1.1	1.2	47.6
	3.2000000000000000	1	1.1	1.2	48.8
	3.2500000000000000	1	1.1	1.2	50.0
	3.266666666666667	1	1.1	1.2	51.2
	3.3000000000000000	1	1.1	1.2	52.4
	3.307692307692308	2	2.2	2.4	54.8
	3.3125000000000000	1	1.1	1.2	56.0
	3.333333333333334	3	3.3	3.6	59.5
	3.428571428571428	1	1.1	1.2	60.7
	3.466666666666667	1	1.1	1.2	61.9
	3.5000000000000000	5	5.4	6.0	67.9
	3.538461538461538	1	1.1	1.2	69.0
	3.6000000000000000	2	2.2	2.4	71.4
	3.615384615384615	1	1.1	1.2	72.6
	3.642857142857143	1	1.1	1.2	73.8
3.666666666666667	2	2.2	2.4	76.2	
3.692307692307693	1	1.1	1.2	77.4	
3.7500000000000000	3	3.3	3.6	81.0	
3.8000000000000000	1	1.1	1.2	82.1	
3.8125000000000000	1	1.1	1.2	83.3	
3.833333333333334	1	1.1	1.2	84.5	
4.0000000000000000	13	14.1	15.5	100.0	
Total		84	91.3	100.0	
Missing	System	8	8.7		
Total		92	100.0		



### WellBeing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.666666666666670	1	1.1	1.1	1.1
	2.000000000000000	1	1.1	1.1	2.2
	2.166666666666670	1	1.1	1.1	3.3
	2.333333333333330	1	1.1	1.1	4.3
	2.833333333333330	2	2.2	2.2	6.5
	3.000000000000000	3	3.3	3.3	9.8
	3.166666666666670	3	3.3	3.3	13.0
	3.500000000000000	1	1.1	1.1	14.1
	3.666666666666670	1	1.1	1.1	15.2
	3.833333333333330	3	3.3	3.3	18.5
	4.000000000000000	2	2.2	2.2	20.7
	4.166666666666670	1	1.1	1.1	21.7
	4.333333333333330	5	5.4	5.4	27.2
	4.500000000000000	4	4.3	4.3	31.5
	4.666666666666670	3	3.3	3.3	34.8
	4.833333333333330	5	5.4	5.4	40.2
	5.000000000000000	8	8.7	8.7	48.9
	5.166666666666670	4	4.3	4.3	53.3
	5.333333333333330	5	5.4	5.4	58.7
	5.500000000000000	3	3.3	3.3	62.0
	5.666666666666670	3	3.3	3.3	65.2
	5.833333333333330	3	3.3	3.3	68.5
	6.000000000000000	6	6.5	6.5	75.0
	6.166666666666670	8	8.7	8.7	83.7
	6.333333333333330	2	2.2	2.2	85.9
	6.500000000000000	1	1.1	1.1	87.0
	6.666666666666670	5	5.4	5.4	92.4
	6.833333333333330	3	3.3	3.3	95.7
	7.000000000000000	4	4.3	4.3	100.0
	Total		92	100.0	100.0

### SelfControl

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.0000000000000000	1	1.1	1.1	1.1
	2.3333333333333330	1	1.1	1.1	2.2
	2.5000000000000000	2	2.2	2.2	4.3
	2.6666666666666670	1	1.1	1.1	5.4
	2.8333333333333330	4	4.3	4.3	9.8
	3.0000000000000000	4	4.3	4.3	14.1
	3.1666666666666670	2	2.2	2.2	16.3
	3.3333333333333330	5	5.4	5.4	21.7
	3.5000000000000000	3	3.3	3.3	25.0
	3.6666666666666670	8	8.7	8.7	33.7
	3.8333333333333330	6	6.5	6.5	40.2
	4.0000000000000000	6	6.5	6.5	46.7
	4.1666666666666670	4	4.3	4.3	51.1
	4.3333333333333330	3	3.3	3.3	54.3
	4.5000000000000000	7	7.6	7.6	62.0
	4.6666666666666670	3	3.3	3.3	65.2
	4.8333333333333330	5	5.4	5.4	70.7
	5.0000000000000000	3	3.3	3.3	73.9
	5.1666666666666670	1	1.1	1.1	75.0
	5.3333333333333330	5	5.4	5.4	80.4
	5.5000000000000000	3	3.3	3.3	83.7
	5.6666666666666670	3	3.3	3.3	87.0
	5.8333333333333330	4	4.3	4.3	91.3
	6.0000000000000000	4	4.3	4.3	95.7
6.1666666666666670	2	2.2	2.2	97.8	
6.5000000000000000	2	2.2	2.2	100.0	
Total		92	100.0	100.0	

### Emotionality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.375	1	1.1	1.1	1.1
	2.750	1	1.1	1.1	2.2
	2.875	1	1.1	1.1	3.3
	3.125	1	1.1	1.1	4.3
	3.250	1	1.1	1.1	5.4
	3.375	3	3.3	3.3	8.7
	3.500	1	1.1	1.1	9.8
	3.625	1	1.1	1.1	10.9
	3.750	1	1.1	1.1	12.0
	3.875	2	2.2	2.2	14.1
	4.000	2	2.2	2.2	16.3
	4.125	3	3.3	3.3	19.6
	4.250	4	4.3	4.3	23.9
	4.375	3	3.3	3.3	27.2
	4.500	6	6.5	6.5	33.7
	4.625	2	2.2	2.2	35.9
	4.750	4	4.3	4.3	40.2
	4.875	2	2.2	2.2	42.4
	5.000	9	9.8	9.8	52.2
	5.125	3	3.3	3.3	55.4
	5.250	6	6.5	6.5	62.0
	5.375	4	4.3	4.3	66.3
	5.500	1	1.1	1.1	67.4
	5.625	7	7.6	7.6	75.0
	5.750	8	8.7	8.7	83.7
	5.875	2	2.2	2.2	85.9
	6.000	2	2.2	2.2	88.0
	6.250	2	2.2	2.2	90.2
	6.375	2	2.2	2.2	92.4
	6.500	2	2.2	2.2	94.6
	6.625	3	3.3	3.3	97.8
	6.750	1	1.1	1.1	98.9
	6.875	1	1.1	1.1	100.0
Total		92	100.0	100.0	

### Sociability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.666666666666670	3	3.3	3.3	3.3
	2.833333333333330	2	2.2	2.2	5.4
	3.000000000000000	5	5.4	5.4	10.9
	3.166666666666670	4	4.3	4.3	15.2
	3.333333333333330	4	4.3	4.3	19.6
	3.666666666666670	2	2.2	2.2	21.7
	3.833333333333330	2	2.2	2.2	23.9
	4.000000000000000	5	5.4	5.4	29.3
	4.166666666666670	6	6.5	6.5	35.9
	4.333333333333330	5	5.4	5.4	41.3
	4.500000000000000	2	2.2	2.2	43.5
	4.666666666666670	6	6.5	6.5	50.0
	4.833333333333330	5	5.4	5.4	55.4
	5.000000000000000	8	8.7	8.7	64.1
	5.166666666666670	7	7.6	7.6	71.7
	5.333333333333330	7	7.6	7.6	79.3
	5.500000000000000	2	2.2	2.2	81.5
	5.666666666666670	5	5.4	5.4	87.0
	5.833333333333330	4	4.3	4.3	91.3
	6.000000000000000	1	1.1	1.1	92.4
6.166666666666670	3	3.3	3.3	95.7	
6.333333333333330	2	2.2	2.2	97.8	
6.833333333333330	1	1.1	1.1	98.9	
7.000000000000000	1	1.1	1.1	100.0	
Total		92	100.0	100.0	

**Global EI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.966666666666670	1	1.1	1.1	1.1
	3.100000000000000	1	1.1	1.1	2.2
	3.200000000000000	1	1.1	1.1	3.3
	3.366666666666670	1	1.1	1.1	4.3
	3.433333333333330	1	1.1	1.1	5.4
	3.466666666666670	1	1.1	1.1	6.5
	3.533333333333330	1	1.1	1.1	7.6
	3.566666666666670	3	3.3	3.3	10.9
	3.600000000000000	4	4.3	4.3	15.2
	3.666666666666670	1	1.1	1.1	16.3
	3.733333333333330	1	1.1	1.1	17.4
	3.766666666666670	1	1.1	1.1	18.5
	4.000000000000000	1	1.1	1.1	19.6
	4.033333333333330	1	1.1	1.1	20.7
	4.066666666666670	3	3.3	3.3	23.9
	4.100000000000000	1	1.1	1.1	25.0
	4.133333333333330	2	2.2	2.2	27.2
	4.233333333333330	2	2.2	2.2	29.3
	4.266666666666670	1	1.1	1.1	30.4
	4.300000000000000	1	1.1	1.1	31.5
	4.366666666666670	3	3.3	3.3	34.8
	4.400000000000000	1	1.1	1.1	35.9
	4.433333333333330	1	1.1	1.1	37.0
	4.500000000000000	1	1.1	1.1	38.0
	4.566666666666670	1	1.1	1.1	39.1
	4.633333333333330	5	5.4	5.4	44.6
	4.666666666666670	1	1.1	1.1	45.7
	4.700000000000000	1	1.1	1.1	46.7
	4.733333333333330	4	4.3	4.3	51.1
	4.766666666666670	1	1.1	1.1	52.2
	4.800000000000000	2	2.2	2.2	54.3
	4.833333333333330	2	2.2	2.2	56.5
	4.866666666666670	1	1.1	1.1	57.6
	4.900000000000000	2	2.2	2.2	59.8
	4.933333333333330	1	1.1	1.1	60.9
	4.966666666666670	1	1.1	1.1	62.0
	5.000000000000000	1	1.1	1.1	63.0
	5.033333333333330	2	2.2	2.2	65.2
	5.066666666666670	1	1.1	1.1	66.3
	5.100000000000000	1	1.1	1.1	67.4
	5.166666666666670	2	2.2	2.2	69.6
	5.200000000000000	1	1.1	1.1	70.7
5.233333333333330	2	2.2	2.2	72.8	
5.300000000000000	2	2.2	2.2	75.0	
5.333333333333330	2	2.2	2.2	77.2	
5.366666666666670	1	1.1	1.1	78.3	
5.433333333333330	2	2.2	2.2	80.4	
5.533333333333330	1	1.1	1.1	81.5	
5.566666666666670	2	2.2	2.2	83.7	
5.600000000000000	3	3.3	3.3	87.0	
5.633333333333330	1	1.1	1.1	88.0	
5.900000000000000	1	1.1	1.1	89.1	
5.966666666666670	1	1.1	1.1	90.2	
6.000000000000000	1	1.1	1.1	91.3	
6.033333333333330	2	2.2	2.2	93.5	
6.133333333333330	1	1.1	1.1	94.6	
6.166666666666670	1	1.1	1.1	95.7	
6.233333333333330	2	2.2	2.2	97.8	
6.466666666666670	1	1.1	1.1	98.9	
6.600000000000000	1	1.1	1.1	100.0	
Total		92	100.0	100.0	

**Statistics**

		WellBeing	SelfControl	Emotionality	Sociability	Total
N	Valid	92	92	92	92	92
	Missing	0	0	0	0	0
Mean		5.061594203	4.320652174	4.98234	4.615942029	4.735144928

**Statistics**

		Grade in Highest MTH Course Completed (Fall 2018)	Grade in Highest ENG Course Completed (Fall 2018)
N	Valid	66	63
	Missing	26	29
Mean		2.65	3.16
Range		4	4

**Grade in Highest MTH Course Completed (Fall 2018)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	7	7.6	10.6	10.6
	1	4	4.3	6.1	16.7
	2	13	14.1	19.7	36.4
	3	23	25.0	34.8	71.2
	4	19	20.7	28.8	100.0
	Total	66	71.7	100.0	
Missing	System	26	28.3		
Total		92	100.0		

**Grade in Highest ENG Course Completed (Fall 2018)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5	5.4	7.9	7.9
	1	1	1.1	1.6	9.5
	2	6	6.5	9.5	19.0
	3	18	19.6	28.6	47.6
	4	33	35.9	52.4	100.0
	Total	63	68.5	100.0	
Missing	System	29	31.5		
Total		92	100.0		