

**Trait Emotional Intelligence Differences in Pre-Career and Mid-Career United States
Military Leaders**

by

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Abstract

Trait Emotional Intelligence is a well-established predictor of desirable workplace outcomes such as job performance. In military contexts, the fifteen facets of Trait Emotional Intelligence overlap considerably with the Leader Attributes and Competencies established by doctrine used to evaluate officer performance. In spite of these similarities, training initiatives to develop emotional intelligence in service members are conspicuously missing in institutional training programs. The current study investigates differences in Trait Emotional Intelligence between a sample of United States Army Military Academy Cadets (N=174) and mid-career United States Army Officers (N=206). Key analyses include mean-level differences based on level of experience, and regression analysis to identify variables that explain facet and factor-level differences between samples. Findings include facet-level differences between samples in Impulse Control and Emotion Regulation. Implications for force management, leader development, and future directions of study are discussed.

Table of Contents

Abstract	ii
List of Tables	v
List of Figures	vi
Introduction.....	1
Literature Review.....	4
Emotional Intelligence Models, Measures, and Empirical Findings.....	6
Trait Emotional Intelligence and Known Correlates.....	9
Trait Emotional Intelligence Factors and Facets.....	13
Army Leader Attributes and Competencies and Emotional Intelligence.....	15
Method	25
Participants	25
Procedure	26
Measures	27
Analytic Strategies	28
Results.....	31
Hypothesis Testing.....	31
Discussion.....	39
Limitations.....	41
Future Directions	43

Practical Implications.....	44
References.....	46
Appendix A	55
Appendix B	57

List of Tables

Table 1	57
Table 2	58
Table 3	32
Table 4	33
Table 5	35
Table 6	36
Table 7	59
Table 8	59
Table 9	59
Table 10	60

List of Figures

Figure 1	17
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Introduction

Emotional Intelligence (EI) has been the subject of extensive practitioner attention and academic research since its emergence. Daniel Goleman's enormously popular book *Emotional Intelligence* (1995) catapulted EI into the international spotlight. Goleman's related article is the most requested publication from the Harvard Business Review (Sardo, 2004). The social science and human resource management attraction to this construct is easily understood based on the tremendous scope of possible applications that understanding emotions might yield. In application, the proponents of EI theory anticipated and informed a movement in management and organizational behavior—providing a useful example of the *theoretical prescience* as advocated by Corley and Gioia (2011). Intuitively, we can expect that traits, abilities, and affective self-perceptions associated with EI should differ from person to person and have implications in the workplace (Hochschild, 1983). However, the presence of differences is not enough to make a theory useful—these differences must prove to be useful.

Utility is created when those differences are useful in predicting desired outcomes. The nature of the relationship between EI and workplace outcomes has been hotly debated. The nature of this debate has revolved around concerns that EI lacks discriminant validity from other constructs that are long-established predictors of performance (e.g. general mental ability, personality, emotional stability, and affect related measures). While these arguments have merit on theoretical grounds, consensus is building that EI is an important and useful construct (Joseph, Jin, Newman, & O'Boyle, 2015b).

The purpose of this study is to investigate differences in Trait Emotional Intelligence between pre-career and mid-career military officers. In doing so, the author hopes to identify critical experiences that might contribute to facet-level increases in EI and devise recommendations for training emphasis and leader development. The findings herein will add to the body of literature and partially address the lack of clear understanding about EI fluctuations across career stages. Military evaluations are based on a series of desired leader attributes and characteristics that overlap tremendously with EI. Thus, the outcomes of this study will provide interesting insight into self-perceptions of emotional intelligence in military leaders and could be useful for training development regardless of whether hypotheses contained herein are supported or not.

There are three goals in this study: First, it is important to open with a review of empirical evidence, benefits, and applications of the EI construct. While a thorough literature review is a typical component in any research paper, it is particularly important in this context due to the fact that “Emotional Intelligence” is an umbrella term that is used to describe different models that correlate quite differently with existing constructs (e.g. cognitive ability and personality) and outcomes (e.g. job performance). Though there is considerable support for the usefulness of EI as a construct, there is far less agreement with regard to models, definitions and measurement instruments. To that end, this paper seeks to draw clear lines on the field to prevent confusion.

Second, readers will find an overview of the Army Leader Attributes and Competencies as described in Army Doctrine Publication (ADP) 6-22 entitled Army Leadership (Army, 2012). These six attributes and competencies are the standard that U.S. Army officers are held to, and have strikingly clear connections to EI. While these connections are intuitively apparent,

measures of emotional intelligence are not currently used in officer selection and development contexts (Hilmes, 2015). Thus, the important implications of this study are best appreciated when existing doctrine and current evaluation standards are understood.

Third and most importantly, this paper includes a study that explores a question that has been largely absent in existing EI research: do individuals at different stages of their career differ on Emotional Intelligence? In other words, do the 22 year-olds who enter the workforce differ on EI scales when compared to mid-career professionals? If yes, what experiences could help explain the differences in EI between mid-career professionals? It is not uncommon to see quality job opening descriptions that require applicants to have five or so years of professional experience in order to apply. This presumes that there is an appreciable difference between an individual coming out of college and someone who is only a few years older but has professional experience. This study could provide interesting insight into these first formative years in the development of young professionals.

We have no shortage of colloquialisms that lead us to assume that differences might exist based on experience; organizations want employees who are “street smart,” not on their “first rodeo,” all of these imply that situational awareness, discernment and savvy comes with age or experience. Is it possible that these illusive yet valuable characteristics are tied to Emotional Intelligence? The extant literature on mean-level differences between populations at different age ranges is extremely limited, but has shown that mean-level differences do exist when TEI is measured from late childhood to adolescence following a complex nonlinear pattern over time (Keefer, Holden, & Parker, 2013; Parker, Saklofske, Wood, Eastabrook, & Taylor, 2005). The present study builds on this foundation by looking at mean level differences between professionals in the first years of their career.

Literature Review

There are numerous highly influential works that predate Goleman's that contribute to our understanding of the Emotional Intelligence construct—some that date back to the early 20th century. The Emotional Intelligence construct has been discussed in social science literature since the early 20th century. Dewey's 1902 work described the illusive social intelligence construct (see Landy, 2006). Thorndike expounded on Dewey's work with his *Harper's Magazine* article "Intelligence and its uses" wherein it is suggested that social intelligence could be conceptualized as the ability to understand people and interact with others wisely (Thorndike, 1920). Interestingly, these conceptualizations are not far removed from current EI theory, yet the aforementioned foundations remained largely dormant for more than sixty years before they were developed further.

During the 1980s we can see other lines of research that are quite similar to Emotional Intelligence and are worth reviewing. Practical Intelligence theory underscores the importance of tacit knowledge in social and professional situations, and has been conceptualized as the capacity to resolve unexpected and difficult situations when existing solutions and theory are insufficient (Langer, Slaughter, & Mukhopadhyay, 2014; Wagner & Sternberg, 1985). The interpersonal implications of this theory clearly overlap with Emotional Intelligence facets that pertain to emotion perception and expression. In other studies we can see that aspects of emotional intelligence were gaining credibility individually as useful predictors for managerial performance. For further information, Lievens and Chan (2010) provide an informative review of

commonalities and differences between Practical, Social, and Emotional Intelligence and how these constructs in their chapter in the *Handbook of Employee Selection* (Farr & Tippins, 2010).

Our modern conceptualizations of Emotional Intelligence find their genesis in Howard Gardner's book *Frames of Mind* (1983) which explored the idea that each person possesses multiple intelligences—including interpersonal and intrapersonal intelligence. Interpersonal intelligence refers to one's interactions with others and empathy, while intrapersonal intelligence refers to one's capacity for accurate introspection. These intelligences translate directly into facets that we find in modern instruments to measure Trait Emotional Intelligence. After Gardner, Salovey and Mayer contributed what has come to be viewed as an important work on Emotional Intelligence (1989). Their definition of Emotional Intelligence as the "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's own thinking and actions" (p. 189) is the foundation for the ability model of Emotional Intelligence to be described in the pages to follow.

Prior to describing the two common models for EI it is worth mentioning that EI has not been free of criticism. Murphy (2006) effectively summarizes some of the main points of contention in his important critique by stating that EI has been poorly defined, overlaps with existing constructs, and has been inappropriately propped up by proponents. While some of the concerns above will be discussed in pages to follow, the discussion is intended to inform rather than resolve the ongoing debate. While it is important to acknowledge the arguments against EI, the current study builds on the recommendation by Joseph, Jin, Newman, and O'Boyle (2015b) that Trait Emotional Intelligence displays adequate construct validity and can be used with confidence as one of the best predictors of job performance.

Emotional Intelligence models, measures, and empirical findings

Emotional intelligence books, self-help and professional development seminars, and other materials created a multi-million dollar industry in the last several decades (Grewal & Salovey, 2005). This is further evidenced by the finding that approximately 75% of Fortune 500 companies have incorporated a measure of EI in their personnel selection, development, or promotion systems (Bradberry & Greaves, 2009). In spite of this enormous popularity, a thorough review of this mountain of EI-related material will ultimately lead the casual reader to confusion. Readers will quickly notice a clear problem with the EI construct: there is a concerning lack of definitional consensus. Before moving forward, it is important to know that there are two predominant models for EI, trait or mixed Emotional Intelligence and ability Emotional intelligence; each with distinct definitions, measures, and purposes. As a note of caution, readers should recognize that these two constructs are quite distinct, yet their correlates are often combined or confused in extant literature on EI. First, ability Emotional Intelligence (AEI) treats emotional intelligence as the ability to reason about emotions effectively (Mayer, Roberts, & Barsade, 2008) and has been described as:

...the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Mayer et al., 2004).

Further, ability EI is typically divided into four sub-dimensions: emotion perception, emotion understanding, emotion facilitation, and emotion regulation (Mayer, 1997), and has been said to be more accurately described as an intelligence since measures of AEI have correct answers rather than a series of self-rated perceptions (Daus & Ashkanasy, 2005). Several

instruments have been developed to measure Ability EI, the most popular of which is the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). There is building consensus that the MSCEIT and other ability EI measures boast a stronger theoretical foundation when compared to measures of trait or mixed EI (Daus & Ashkanasy, 2005; Matthews, Roberts, & Zeidner, 2004; Murphy, 2006). This theoretical foundation is built on findings that measures of ability EI do not correlate with other measures (such as personality or general mental ability) as strongly as mixed or trait EI. Thus it is distinct, but when the predictive utility of ability EI was tested against cognitive ability and Big Five personality traits AEI showed near-zero incremental validity with $\Delta R^2 = 0.002 = 0.2\%$ (Joseph & Newman, 2010) and $\Delta R^2 = 0.004 = 0.4\%$ (O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011). In other words, the construct might be unique, but it fails to add value when predicting job performance.

The second model has been called trait Emotional Intelligence (TEI) or mixed EI (Bar-On, 1999; Joseph, Jin, Newman, & O'Boyle, 2015a; Petrides, 2010). Trait Emotional Intelligence is a broad term that has been defined as “a constellation of emotional self-perceptions located at the lower levels of personality hierarchies and measured via the trait emotional intelligence questionnaire” (Petrides, Pita, & Kokkinaki, 2007). Trait EI is also sometimes referred to as trait emotional self-efficacy (Petrides, 2010). This useful label reflects both the construct's content and the method used to measure it (self-report surveys), but the enormous momentum behind the Emotional Intelligence movement has been too much to overcome and so trait emotional self-efficacy is rarely used.

Several meta-analyses have been conducted to explore intercorrelation between AEI and TEI show us that AEI and TEI intercorrelate moderately $\hat{\rho}=.26$ (Joseph & Newman, 2010) and $\hat{\rho}=.14$ (VanRooy, Viswesvaran, & Pluta, 2005). Thus, the construct's models appear to be

distinct in nature, which adds a great deal of confusion to the EI debate. Whether EI is a lower level construct as proposed by Konstantin Petrides and Furnham (2006), or an amalgamation of various components of cognitive ability and personality; TEI instruments have been shown to predict positive outcomes in the workplace and have been adopted by consulting firms and organizations alike (Joseph & Newman, 2010). Further, trait EI is shown to have greater incremental validity when predicting performance above and beyond cognitive ability and Big Five personality when compared to ability EI. In two separate studies, trait EI added considerable value to job performance prediction with $\Delta R^2 = 0.142 = 14.2\%$ (Joseph & Newman, 2010), and $\Delta R^2 = 0.068 = 7\%$ (O'Boyle et al., 2011). This incremental value was explained further in Joseph et al.'s 2015 meta-analysis which will be discussed in some detail in the correlates of TEI section.

In further studies, TEI has been shown to predict work performance positively in high emotion-demanding jobs and negatively in low emotion-demanding jobs (Joseph & Newman, 2010). This finding is especially pertinent to the present study since military contexts are emotionally demanding and stressful. Beyond work performance, TEI has also been connected to desirable workplace variables such as achievement, motivation, and low impulsiveness (Joseph et al., 2015a; J. D. Mayer et al., 2008; Konstantin Petrides & Furnham, 2001; Zeidner, Matthews, & Roberts, 2004).

Studies have also suggested that EI has a significant association with relationship satisfaction (Malouff, Schutte, & Thorsteinsson, 2014), establishing an inroad for EI to contribute to work-life balance research. From a medical perspective, high levels of emotional intelligence might also have positive health implications (Martins, Ramalho, & Morin, 2010; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). This connection is not surprising

when we consider well-established connections between the presence and maintenance of meaningful relationships and improved health. A potential drawback of Trait EI might be negatively related to learning, especially early in the learning process (Fellner et al., 2012). In a way, this should not be surprising since students who are keenly aware of the emotional events going on around them might attend less diligently to their schoolwork. Having established that TEI is a useful predictor of many valuable outcomes, it is useful to next take a closer look at what existing constructs and theories might be subsumed under the broad TEI umbrella.

Trait Emotional Intelligence and known correlates

Joseph et al.'s important investigation to clarify the structure of the TEI model revealed that TEI is a useful combination of existing domains: Conscientiousness, Extraversion, self-related qualities such as self-efficacy and self-rated performance, AEI, Emotional Stability, and cognitive ability (2015a). These correlations constitute the justification behind the criticism that the originators of trait EI may have unknowingly engaged in *domain sampling* (Joseph et al., 2015b). In other words, mixed EI measures draw heavily from other well-established constructs in the field of psychology (Cronbach & Meehl, 1955; Ghiselli, Campbell, & Zedeck, 1981; Nunnally, 1978). This is not a concern to Petrides, who considers TEI to be a lower-order construct that should be expected to correlate with cognitive ability and personality traits (Konstantin Petrides & Furnham, 2006). Thus, it should be accepted that TEI is indeed a combination of well-established constructs, namely personality, cognitive ability, and self-efficacy, the fact remains that in applied settings this is a very *useful* combination.

Still, it is important to briefly explore the reasons why these correlations are found to deepen our understanding of TEI. As mentioned, TEI has been shown in past meta-analytic papers to be related to the Big Five trait Conscientiousness, $\hat{\rho}=.38$ in both Joseph and Newman

(2010) and O'Boyle et al. (2011). This correlation can be explained by the inclusion of stress management and self-motivation as facets of TEI, which are clearly similar to the Conscientiousness sub domain dutifulness. The connection between TEI and Conscientiousness can be further explained through the conceptualization of the latter as a propensity to regulate behavior to satisfy established social norms (John & Srivastava, 1999; Joseph et al., 2015a). In the case of Petrides' TEI construct, this theoretical connection can be made with the Sociability factor, which measures self-perceived social awareness and the Emotionality factor which includes measures of self-perceived emotion perception and expression (Konstantin Petrides & Furnham, 2001). In other words, the connection between Conscientiousness and TEI can be theoretically explained because individuals who seek to satisfy social norms will do so through the utilization of their ability to recognize those norms and communicate in an appropriate manner.

Extroversion, a second Big Five trait that correlates with TEI, has been said to contain several pertinent components: social vitality and social dominance (Helson & Kwan, 2000; Joseph et al., 2015a). Social vitality is related to the observation made by Wilson that, for extroverts, happiness is consistently related to "successful involvement with people" (p. 304) (Hotard, McFatter, McWhirter, & Stegall, 1989; Wilson, 1967). This theoretical connection can be found most aptly when we consider Petrides' EI facets that measure one's capacity to form and maintain meaningful relationships, and one's capacity to defend their point of view in social contexts (Konstantin Petrides & Furnham, 2001). In other words, we can expect that extroverts build meaningful relationships and assert themselves when their views are called into question.

Since TEI is measured through self-report instruments with items that are designed to capture self-perceived social and emotional capacities, it is not surprising that correlations

between TEI and other self-report instruments (self-rated performance and self-efficacy in particular) are considerable (Joseph et al., 2015a; Newman, Joseph, & MacCann, 2010). This connection can be theoretically supported through several different facets in the TEI; most prominently the facet Self-Esteem which is designed to measure an individual's level of satisfaction with his or her competence when faced with a task.

While TEI and AEI are viewed as distinct, the constructs do overlap in some areas as evidenced several findings that reflect $\hat{\rho}=.26$ (Joseph & Newman, 2010) and $\hat{\rho}=.14$ (VanRooy et al., 2005). According to Bern's Self Perception Theory (1972), individuals come to "know their own attitudes, emotions, and internal states partially by inferring them from observations of their own overt behavior and/or the circumstances in which this behavior occurs" (p. 2). Thus, *ability* EI (the aspect of intelligence that relates to emotional abilities) can be expected to correlate with *trait* EI, which measures self-perceptions about one's emotional capacities (Konstantin Petrides & Furnham, 2001).

It has been long established that cognitive ability is a strong predictor of job performance and all manner of other useful outcome variables (Hunter, 1986; Schmidt, 2002). Thus, it is important to briefly examine the theoretical connection between trait EI and cognitive ability. While we can imagine that there might be affect-related connections between EI and cognitive ability, the most compelling connection can be found within the concept of adaptability—a consistent component measured in mixed or trait EI instruments (Bar-On, 1999; Konstantin Petrides, 2010). Adaptability is included as an element of cognitive ability due to the additional cognitive processing requirements that are found in unfamiliar circumstances (Joseph et al., 2015b; LePine, Colquitt, & Erez, 2000). As an aside note, Murphy finds that the relationship between cognitive ability and performance might not be stable over time and across contexts

(1989). More specifically, cognitive ability is important when an employee is new to a job or when they are learning new tasks, but is less useful when attempting to predict performance in maintenance tasks. This might provide some insight as to why TEI has been shown to predict performance above and beyond cognitive ability. TEI includes a measure of intrinsic motivation, which might help identify workers who are willing to work hard to satisfy an internal desire for competence even after the initial excitement of holding a new job is gone (Konstantin Petrides & Furnham, 2001).

Lastly, Joseph et al. (2015b) identifies a connection between what she calls mixed EI and Emotional Stability. This connection can be seen when we understand that emotional stability is a combination of trait-positive affect and the ability to handle the stressors that arise in daily life as well as manage the tendency for stress to have compounding effects (Marco & Suls, 1993; Suls, Green, & Hillis, 1998). This clearly relates to the facet of trait Emotional Intelligence that is designed to measure one's capacity for managing stress (Konstantin Petrides & Furnham, 2001). In other words, we can expect that an individual who scores high in measures of TEI will also display higher emotional stability. In a connected finding, we see that Emotional Intelligence is a useful predictor for Post-Traumatic Stress Disorder when individuals who score high on a measure of Emotional Intelligence reported fewer psychological problems related to traumatic events (Hunt & Evans, 2004). There is also some evidence to support a claim that TEI is a useful moderator of the stress-vulnerability-resilience relationship (Armstrong, Galligan, & Critchley, 2011; Davis & Humphrey, 2012; Gohm, Corser, & Dalsky, 2005; Keefer et al., 2013; Martins et al., 2010). Having discussed the important correlates of TEI as discovered in recent literature, we can proceed to a review of the construct that will be used in the present study.

Trait Emotional Intelligence factors and facets

TEI as defined by Petrides (2010) is operationalized into thirteen facets that fit into four factors (well-being, self-control, emotionality, and sociability), and two independent facets. The well-being factor is designed to measure the overall quality of one's emotional life at the time of measurement, and includes three facets: happiness, optimism, and self-esteem. While these facet labels are familiar, it is important to briefly provide the intended definitions for each facet to avoid confusion. Within the well-being factor, happiness is operationalized as the level of contentment with one's present situation and in the TEIQue this facet measures "pleasant emotional states" (Thomas, 2010). Optimism reflects one's disposition toward the future and measures future-oriented feelings. And self-esteem measures one's evaluation of and confidence in abilities and their level of self-respect.

The self-control factor includes facets that measure an individual's level of discipline when it comes to emotions, impulses, and stress. The first facet, emotion regulation, constitutes one's ability to control surges of emotion and remain calm in stressful environments. The second facet in the self-control factor, impulse control, measures one's self perceptions about their propensity to think before they act, succumb to temptation, or make hasty decisions without thinking through second and third-order effects. The third facet, stress management, focuses attention directly on the capacity to operate under pressure.

The emotionality factor describes "your capacity to perceive and express emotions and how you use them to develop and sustain relationships with others"(Thomas, 2010).

Emotionality is operationalized into four facets: empathy, emotion perception, emotion expression, and relationships. Empathy is described as the capacity to understand other people's viewpoints and take them into account. Emotion perception is the capacity to understand one's

own and other people's emotions. Emotion expression is the capacity to express emotions to other people. Finally, the relationships facet measures one's capacity to form and sustain fulfilling relationships both at work and in their personal life.

The sociability factor measures one's capacity for social interaction and interpersonal social influence. Sociability is operationalized into three facets: emotion management, assertiveness, and social awareness. Emotion management, which might also be called emotional influence, is one's capacity to influence the emotions of others. In application, this can manifest in efforts to invoke positive feelings such as inspiration, motivation, happiness, or pride; or negative feelings such as shame, guilt, sadness or disgust. Assertiveness measures one's level of commitment to standing up for their beliefs, views, and conclusions. An individual who rates high on the assertiveness facet is not necessarily an aggressive person, but they may be described as principled and forthright. Lastly, social awareness is described as one's capacity to feel comfortable in social environments and levels of comfort when interacting with strangers. An individual with high social awareness might be thought of as outgoing and extroverted.

The two facets that did not fit nicely into one of the four factors—adaptability and self-motivation—are referred to as independent facets in the TEIQue technical manual (Thomas, 2010). Adaptability measures one's level of comfort with and propensity to seek out change. A person who is low in adaptability prefers a stable work environment with predictable patterns, while high scores in the facet are associated with comfort in dynamic environments and a propensity to seek out change. Self-motivation can also be called intrinsic motivation—as it seeks to measure the degree to which an individual works to satisfy their internal standards for success. Individuals who score low on self-motivation can be considered to be externally

motivated and are driven by rewards such as positive evaluations, goal achievement, or financial benefits.

These fifteen facets drive the discussion in the present study, and constitute the foundational elements of the investigation. The factors ('well-being,' 'self-control,' 'emotionality,' and 'sociability') are useful tools for categorization, but are not central elements in the present study (in other words, factor-level labels are used to group facets, but the individual facet measures will be used to conduct analysis). Research based on this construct has been shown to have gender-specific implications, especially based on age, that manifest in interesting ways in the workplace (Konstantin Petrides & Furnham, 2006). In a moderately sized sample of adults ($N_{\text{Female}}=87$, $N_{\text{Male}}=80$) with higher than average education levels (23% high school, 30.9% bachelor's degree, 43.8% postgraduate degree), Petrides and Furnham found that age was significantly related to mean-level changes in EI in women (zero-order correlation=.389, $p<.001$) but was not significant in males. The current study looks more deeply at the issue of EI differences between male age groups, and could add considerable clarity to our understanding of EI in young adult males. Having established the working definitions for all facets of interest within trait emotional intelligence, we can move forward by looking more deeply at the US Army's leader attributes and competencies in search of useful connections.

Army leader attributes and competencies and Emotional Intelligence

The United States Army has a lengthy history of leader development, and efforts to cultivate leadership in enlistees and officers begin at the earliest stages of training and continue throughout a Soldier's career. The Army communicates standards and expectations for leaders through doctrine, most recently Army Doctrine Publication (ADP) 6-22 entitled Army Leadership (Army, 2012). In this publication, the Army establishes a list of three Army Leader

Attributes (ALA) and three Army Leader Competencies (ALC) that describe an optimal mix of traits and abilities. This blend is comprised of the following factors: character, presence, intellect, leads, develops, and achieves (see *Figure 1*). These attributes are not only present in doctrine, they find their way onto the performance evaluation forms for pre-commission and early-career officers and constitute the yardstick with which officer performance is measured (see Appendix A: Officer Evaluation Report). Army Leader Attributes/Competencies and trait EI enjoy tremendous areas of conceptual overlap that will be explored later in this paper. Regardless of these striking similarities, it has been noted that there is a severe lack of assessment and training emphasis on the identification and cultivation of EI in the officer corps (Hilmes, 2015). In order to understand the connections between emotional intelligence and the Army leadership model we must take a moment to review these attributes and competencies, and determine why they are important.

Figure 1, taken directly from ADP 6-22, depicts the Army Leadership Requirements Model (2012). The abilities and competencies included in the model each include components that contribute to the overall competency or attribute. These components (e.g. empathy, confidence, expertise, etc.) are largely self-explanatory, though several components appeal to an understanding of Army jargon and thus require explanation.

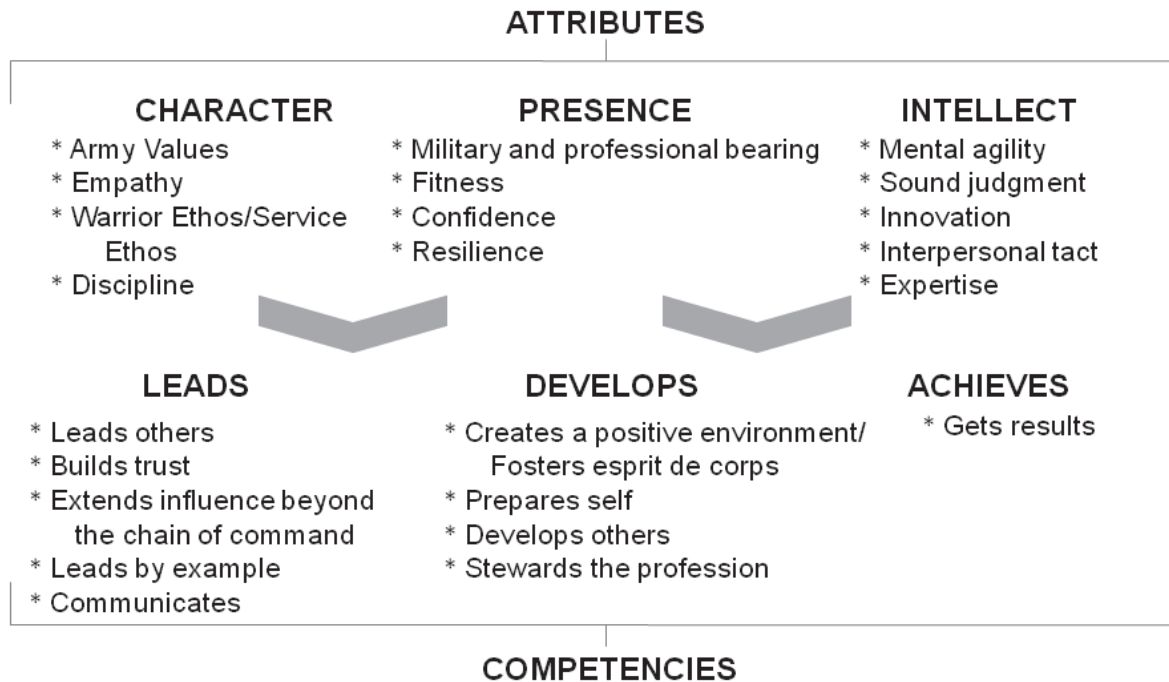


Figure 1: The Army Leadership Requirements Model as depicted in Army Developmental Reference Publication 6-22 (U.S. Army, 2012).

Army Values: listed as a component of the attribute Character, is a list of seven core values taught to every Army service-member in their initial entry training. This list is designed to establish a common foundation for the diverse population of service-members who need to be able to count on each other in the most stressful and dangerous circumstances. The Seven Army Values are: Loyalty, Duty, Respect, Selfless Service, Honor, Integrity, and Personal Courage.

Warrior Ethos: listed as a component of the attribute Character, is a small portion of the Soldier’s Creed that is a principle for Soldiers to live by. The Warrior Ethos is:

*I always place the mission first
 I will never accept defeat
 I will never quit
 I will never leave a fallen comrade*

Military and Professional Bearing: listed as a component of the attribute Presence, could be compared to a combination of composure, professionalism and self-control. A Soldier who

loses his or her bearing could be analogous to losing composure, exhibiting poor decorum, or breaching protocol.

Extends Influence Beyond the Chain of Command: listed as a component of the competency Leads, can be described as having an understanding of networks and environments and communicating effectively within those contexts. There is an element of social acumen that is implied in the extension of influence beyond one's own organization. In the military, like many other organizations and vocations, networking is an important element to a leader's duty performance.

These traits and attributes are more than talking points to the Army, they are the yardstick that is used to measure officer performance on evaluations. Officers in the first nine to ten years of service are evaluated on a form (Department of the Army Form 67-10-1, Officer Evaluation Report, see Appendix A) that provides supervisors with blanks for up to five lines of text to describe the rated officer's performance in each attribute and competency (i.e., five lines to describe 'Character,' five lines to describe 'Presence,' etc.). Despite the great importance that is placed on these attributes and competencies, many of them are not incorporated into institutional officer development initiatives. The position taken in this paper is that the facets of EI overlap considerably with the sub-components of the Leader Attributes and Competencies outlined in ADRP 6-22, and that efforts spent to identify and develop EI self-awareness in officers during their early career could be tremendously beneficial. This theoretical overlap is illustrated in Table 2, which depicts the fifteen facets of EI and connects them with ALA or ALC components.

The theoretical connection between sub-components of the ALA Presence and Emotional Intelligence has some existing empirical support. First, TEI has been shown to be positively related to resilience in that high scores in EI facets relate to "lower threat appraisals, more

modest declines in positive affect, less negative affect and challenge physiological responses to stress” (p. 909) (Schneider, Lyons, & Khazon, 2013). Confidence, another sub-component of Presence, is clearly related to TEI facet self-esteem as both constructs refer to one’s self perceived ability to accomplish tasks successfully. Professional Bearing is another sub-component of Presence that can be connected to facets of Emotional Intelligence through facets stress management and emotion regulation. A leader who is able to operate in stressful situations effectively and controls his or her emotions achieves the desired outcome of having professional bearing. Bearing also has connections to social awareness, as leaders who are high in that facet of TEI might be more able to identify appropriate behaviors in social contexts.

The theoretical connection between Army Leader Attribute Character and emotional intelligence begins with the ALA sub-component Discipline and TEI facet impulse control. Discipline refers to one’s ability to persevere and resist temptation, which is more easily accomplished when an individual is deliberate about their actions and lacks impulsivity. Character and EI are also clearly connected through identically named sub-component and TEI facet empathy. In addition to this connection, it might also be supposed that emotional intelligence facet emotion perception might enhance a leader’s ability to show empathy.

Lastly for Army Leader Attributes, we can see connections between ALA Intellect and TEI. Sub-component Interpersonal Tact can be theoretically connected to social awareness, emotion management, and emotion expression. Leaders who understand social dynamics, are able to influence the emotional states of others, and who are able to communicate their emotions effectively will be seen as having interpersonal tact. Further, we can see that Intellect sub-components Mental Agility and Innovation are theoretically related to TEI facet adaptability. A mentally agile leader is able to adjust to unique challenges and create innovative solutions.

Interestingly, another conceptual connection can be made between TEI impulse control and ALA Intellect sub-components Mental Agility and Innovation since low scores in impulse control are also associated with being creative and adventurous, thus creating a theoretical inverse relationship.

While the theoretical connections depicted in Table 2 cannot be verified in the present study due to the fact that there is no empirical measure for the Army Leader Attributes and Competencies, one of the benefits of this study is to show that existing Trait Emotional Intelligence measures overlap with ALA/ALC so considerably that they could be used within military contexts for officer development. Additionally, the present study is designed to shed light on the experiences and influences that might produce facet, factor and general score-level differences in trait emotional intelligence between populations of military officers.

Hypothesis 1: Mid-career officers have higher general scores on the TEIQue than pre-commission Cadets. As mentioned above, longitudinal research on Trait Emotional Intelligence in adults is extremely limited. One longitudinal examination of TEI was conducted on subjects during late-childhood and adolescence (Keefer et al., 2013), while others have been limited in duration (typically one to two years) and focus (primarily on predictive utility) (Jellesma, Rieffe, Terwogt, & Westenberg, 2011). Thus, it is useful to investigate the extent to which the combined value of experience and added maturity will lead to a mean-level difference between the pre-career and mid-career sample.

Hypothesis 2: Mid-career officers rate higher on the Self-Control Factor of the TEIQue than pre-commission Cadets (*H2a* Emotion Regulation, *H2b* Impulse Control, and *H2c* Stress Management). This constitutes one of the most important aspects of the expected findings, since the facets that are contained within the Self-Control Factor are extremely valuable in military

contexts. Given the high-stress nature of military duty both in garrison and in deployed environments, there is a strong expectation that officers who excel in this factor will uniquely prepared for the professional rigors of military duty.

Hypothesis 3: Mid-career officers rate higher on the Sociability Factor of the TEIQue than pre-commission Cadets (*H3a* Emotion Management, *H3b* Assertiveness, and *H3c* Social Awareness). These expectations are based on the perspective that the first years of military service include experiences that typically improve an officer's confidence and discipline. For example, every Infantry officer (and some Armor officers) attends Ranger school, which is an elite tactical training leadership training program. Officers are also exposed to various and varied professional environments that likely improve their social awareness. For example, military culture is filled with official social events that range from casual to extremely formal. These social events provide young leaders with unique insights into the professional social domain wherein participants must interact comfortably yet be mindful of underlying rank structures and social norms. This hypothesis has enormous implications for training and personnel management initiatives, and will indicate whether or not the typical young officer develops refined sociability during the first years of service.

Hypothesis 4: Mid-career officers rate higher than Cadets on the Adaptability Facet. Military service exposes leaders with dynamic situations and complex problems that may be more effectively managed by experienced officers (an adaptable leader is a savvy leader). The other independent facet (self-motivation) will not be investigated due to the expectation that students at military academies are typically quite self-motivated.

After investigating differences between early and mid-career officers, it will be important to closely examine the mid-career population in an effort to discover how much of the variance

in EI can be explained by certain experiences, training and demographic variables. While this investigation will not be sufficient to prove causal relationships, it could provide useful insight into the most beneficial aspects of an officer's first years of service. These findings could influence future training initiatives to accelerate the acquisition of critical EI skills, increase self-awareness, and improve leader performance.

There are several experiences that could be considered as critical and formative in the early career of an Infantry or Armor officer. First, young Infantry and Armor officers experience direct leadership responsibility to a degree that they have never experienced before. As a Platoon Leader, an officer is responsible for 20-40 Soldiers, and is financially accountable for millions of Dollars in military equipment. This massive amount of responsibility is overwhelming at first, but over time most platoon leaders grow in maturity and confidence.

Combat Training Center experience is defined as a rotation at either the National Training Center at Fort Irwin, California; The Joint Readiness Training Center at Fort Polk, Louisiana; or the Joint Multinational Readiness Center at Hohenfels, Germany. These centers receive military units from all over the world and guide them through an intense scenario-based training environment that is designed to prepare them for deployment. Young officers are challenged with important decisions and are pushed physically and mentally in the fast-paced scenario. Combat training centers place great emphasis on learning and leader development, so after action reviews are conducted and leaders are encouraged to introspect at every stage of the training rotation. These "pressure cooker" environments are optimal for the development of EI in a short period of time.

Completion of a challenging military training course, such as Ranger School; Special Forces Assessment and Selection (SFAS); Sapper; and resident Survival, Evasion, Resistance,

and Escape (SERE) courses indicate the presence of mental ability, self-control, persistence, discipline and mental agility. We can expect that individuals who successfully complete these courses will reflect higher TEIQue scores in the Self-Control factor, Sociability factor, and the Adaptability and Self-Motivation facets. This study also includes an item to measure completion of 40 or more hours of Comprehensive Soldier and Family Fitness (CSF2). This training stems from positive psychology principles and focuses on positivity, resilience, and mindfulness.

Hypothesis 5: Variance in mid-career officer EI scores is explained by a combination of deployment experience, Combat Training Center experience, and training experience (Ranger, SFAS, Sapper, SERE, and CSF2). The current study expects to find that deployment experience adds to the model in several ways. First, the challenges that are often faced during deployment lead to changes in the Self-Control factor (emotion regulation, impulse control, and stress management) and the Sociability factor (emotion management, assertiveness, and social awareness). This study also expects to find some negative relationships with regard to deployment based on the emotional numbing that can occur during exposure to combat operations (Campbell & Renshaw, 2013; Kashdan, Elhai, & Frueh, 2006; Keenan, Lumley, & Schneider, 2014; Shu et al., 2014).

Hypothesis 6: Mid-career officers with deployment experience rate lower on the Empathy (*H6a*), Emotion Perception (*H6b*) and Emotion Expression (*H6c*) sub-factor of Emotionality than mid-career officers with no deployment experience. It should be noted that “deployment experience” is too broad a term if the intent is to accurately measure a leader’s exposure to highly stressful conditions during deployment. Thus, items in the demographic portion of the survey were designed to assess the number, location (Iraq, Afghanistan, both, or

other). This was designed to filter out any deployments to locations that may be technically considered a combat zone, but might not meet the intent of the present study.

Method

To test the hypotheses listed above, a Trait Emotional Intelligence measure, the Trait Emotional Intelligence Questionnaire or TEIQue, was administered to a population of mid-career officers at a large military installation and compared to an existing dataset from a population of pre-career cadets from a large military academy. Demographic items to identify pertinent military service and training experience were added to the TEIQue survey to facilitate the analysis of Hypotheses 5 and 6.

Participants

Sample 1, the pre-career sample, consists of 175 military academy students who were selected to serve in the U.S. Army as Infantry or Armor officers. All students at the military academy were required to complete the TEIQue as part of their development as a leader, but only those branched Armor and Infantry are used in this study to avoid competing hypotheses when comparing samples 1 and 2. Sample 1 is 100% male, mean age 21.68 years old ($SD=.96$). Ethnically, sample 1 is comprised of 77% white (not-Hispanic), 6% Asian descent, 6% Hispanic, 3% African American, 1% Native American and 6% elected not to indicate their ethnicity. All individuals in sample 1 were United States Citizens. Students had some knowledge of the EI construct, based on a course they received more than two months before taking the measure.

Sample 2, the mid-career sample, consists of 211 mid-career Armor and Infantry officers attending a mandatory career progression course at a major military installation in the United States. The sample consists of the student population from four separate classes in the same

professional military education course. In other words, all students in four classes were offered the opportunity to participate, but participation was not required. Participation rates for sample 2 was 64.22%. Sample 2 is 100% male, mean age 29.22 years old ($SD=3.61$ years). Ethnically, sample 2 is comprised of 83% white (not-Hispanic), 4% Asian descent, 4% Hispanic, 3% African American, 1% Native American and 5% elected not to indicate their ethnicity. While sample 2 originally included international officers, these officers were filtered out to ensure that the mid-career sample consists entirely of U.S. citizens.

Procedure

Participants received a 15-minute introduction to the study prior to signing consent forms, and had varied levels of prior exposure to Emotional Intelligence theory. The lead researcher obtained informed consent at the introduction brief, and delivered a link to all participants via email no more than 24 hours after the introduction brief. Participants then had between 7 and 14 days to complete the study (length varied for each class due to scheduling constraints). Each class then received a 55-minute collective feedback briefing wherein the researcher discussed general trends in the results, and pointed out self-awareness strategies for leaders. Five students requested and received one-on-one feedback sessions to discuss their results.

Participants in samples 1 and 2 were not offered any monetary incentive, but were informed that the value associated with the feedback and counseling that was offered in association with this study exceeds \$250. Collective feedback sessions led by graduate students who received training on TEIQue feedback from Thomas International were conducted within one week after participants took the TEIQue. All analysis was conducted at the aggregate level, with the identities of each participant completely unknown to the researcher.

Sample 1 (pre-career sample), the TEIQue was distributed via a web link contained in an email, and participants completed the measure on their own. Though completion of the measure was not a part of the student's curriculum, it was a mandatory assignment in the interest of professional development. The measure took an average of 22.6 minutes ($SD=17.15$) to complete (average and SD calculated after removing four outliers who likely left their computer on without finishing the measure and thus took more than 200 minutes to complete the measure). Sample 2 received the TEIQue via a web link contained in an email, and were also allowed to complete the measure on their own.

Measures

The TEIQue is a 155-item self-report trait emotional intelligence measure distributed by Thomas International Ltd., a human resource management consulting firm headquartered in London, U.K.. The measure asks participants to respond to statements on a 1 to 7 Likert-type scale (1 for "Disagree Completely and 7 for "Agree Completely"). The instrument was developed by Petrides (2001), and is available on his website (psychometriclab.com), but the version offered by Thomas International was used in order to provide participants with individual professional development feedback on their EI profile (participants received a report via email and were given the opportunity to review the report with a TEIQue-certified I/O Psychology graduate student). The test-retest reliability of the TEIQue has been shown to be quite robust in a sample of 907 females (.89) and 759 males (.92), showing that measures remained generally stable one year after the original instrument was completed (Thomas International, 2011).

Criterion-related validity evidence for the TEIQue has been supported through concurrent validation based Pearson product-moment correlations with pro-social and antisocial behavior

such as coping styles (Rational coping, $r=.50$; Rational, $r=.67$; Detached, $r=.47$; Emotion, $r=-.62$; and Avoidance, $r=-.40$) and depressive affect (Dysfunctional attitudes, $r=-.38$; and Depression, $r=-.56$). In work domains, the TEIQue has been shown to correlate with Achievement ($r=.49$), higher levels of Perceived Job Control ($r=.28$), and Job Commitment ($r=.24$). All reported correlations satisfy $p<.05$ threshold for significance and are listed in the TEIQue Technical Summary (Thomas International, 2011).

Analytic strategies

Hypotheses 1 is examined using several techniques. First, independent sample t tests are used to compare composite score (for general EI, factor-level composites, and facet-level score) means between the pre-career and mid-career sample. In order to gain a more refined understanding of what is going on at the facet level, Multivariate Analysis of Variance (MANOVA) will also be used to identify differences in each of the fifteen facets of EI between pre-career and mid-career military leaders. This method will reveal differences between groups of scores across groups. In other words, MANOVA will allow me to combine mean scores for all TEI facets in pre-career sample and compare them in one step against the same group of facet-level means in the mid-career sample as opposed to conducting pairwise t tests between groups. This method of analysis will provide useful insights into the overall conclusion about factor-level comparisons in cases when there are mixed results in the facet-level pairwise t tests. Hypotheses 2 through 4 refer to proposed differences in facet-level scores between pre-career and mid-career military leaders. Hypotheses 2 through 4 will be evaluated using independent sample pairwise t tests.

Hypothesis 5, investigating the nature of EI variance in mid-career officers, will be answered using multiple regression analysis to discover which experiences and demographic

variables are most useful in predicting variance in Emotional Intelligence facets. The proposed model will be tested, along with zero-order correlations between each predictor and TEI in order to provide a clear picture of what experiences contribute most to improvements in TEI. Analysis will be conducted using the SPSS software suite linear regression option.

The three-factor model is built using deployment (in months) in step one, followed by a block of dichotomous variables to identify training experience. The training experience block is a combination of dichotomous responses from the survey instrument to identify whether or not study participants completed Special Forces Assessment and Selection, Ranger, Sapper, resident SERE, and a forty-hour block of instruction on Comprehensive Soldier and Family Fitness (which addresses issues related to resiliency). This model is applied to all study participants, thus the pre-career sample was in the model with zeros in all predictor variables.

Lastly, Hypothesis 6 will be analyzed through t tests comparing mid-career officers who have deployed versus mid-career officers who have not deployed (all within sample 2, mid-career military leaders). Considerations are made in this analysis for location of deployment (Iraq, Afghanistan, or both), and duration of deployment time (total time spent in a combat zone). These considerations are important to evaluate competing hypotheses related to the nature of deployment in each geographic location.

Prior to conducting any tests, outlier analysis was conducted on the pre-career and mid-career samples. SPSS box plots for each facet were used to identify outlier, cases that satisfied a combination of two criteria were removed: first, the case had to be identified as an outlier in two or more facets of emotional intelligence. And second, start times and end times were analyzed to determine the likelihood that the outlier was caused by careless responding. Thus, cases that were outliers in two or more facets and who had survey completion times of less than ten

minutes were excluded from the analysis. As a result of this procedure, the mid-career sample was reduced from 211 to 206, and the pre-career sample was reduced from 175 to 173. All seven of the outliers were low-end outliers.

Results

Hypothesis testing

Hypothesis 1 proposed that the mid-career officer sample would have a higher global TEIQue score than the pre-career sample (see Table 3). A comparison of means using independent sample t-test (equal variance assumed based on Levene's test) did not provide support for Hypothesis 1: mid-career ($M=5.29$), and pre-career ($M=5.28$); $t(377) = -.174$, $p=.862$.

This null result may be interpreted in several ways. First, it is entirely possible that pre-career and mid-career military leaders do not differ in overall metrics of Emotional Intelligence. Proponents for the stability of TEI over time would see this cross-sectional result as support for their assertion that changes are minimal over time. A second possibility is that the age and experience difference between the two samples was not wide enough to identify the hypothesized difference. Ideally, the mid-career sample would have measured officers who already completed what are called "key and developmental" positions in their current rank as Captains. However, the mid-career sample in this study was comprised of relative new promotees to the rank of Captain and thus differences might not be as stark as they would be otherwise.

It was also necessary to consider that the selective nature of the military academy that produced the pre-career sample could skew results since the mid-career sample was comprised of 34% academy graduates. There were a total of 72 academy graduates in the mid-career sample,

which was adequate to test all hypotheses using pre-career academy Cadets, and mid-career academy graduates. In the case of general EI scores (Hypothesis 1), there was no significant difference between pre-career Cadets and mid-career academy graduates: mid-career (M=5.19), and pre-career (M=5.28); $t(245) = .926, p = .355$.

Table 3: Hypothesis 1
Results of t-tests and Descriptive Statistics GTE for pre-career and mid-career military leaders

Outcome	Group						95% CI for Mean Difference	t	df
	Pre-Career			Mid-Career					
	M	SD	n	M	SD	n			
Global Score	5.26	.5667	175	5.26	.5636	211	-.1211, .1060	-.131	384
Global Score (outliers del.)	5.28	.5312	174	5.29	.5117	206	-.0899, .1216	.296	377

* $p < .05$, † $p < .01$

Equal variance assumed based on Levene's Test for Equality of Variance, outliers calculated using SPSS box-plots.

Hypothesis 2 proposed that the mid-career sample would exhibit higher scores on the Self-Control factor with Hypothesis 2a comparing emotion regulation, Hypothesis 2b comparing impulse control, and Hypothesis 2c comparing stress management between the pre-career and mid-career samples (see Table 4). At the factor level, the comparison of means between mid-career (M=5.23), and pre-career (M=5.10) was not significant; $t(377) = 1.673, p = .095$.

However, there is evidence of differences between the samples when facet-level analysis is conducted.

Comparison of means provided some support for Hypothesis 2a (emotion regulation): mid-career (M=5.23), pre-career (M=5.08); $t(377) = 2.004, p = .046$. This result is tempered by power analysis which produced a small effect size (.21), $1-\beta = .52$. This modest finding indicates that it is possible that mid-career military leaders are indeed more able to control their emotional

states than pre-career military leaders. The mean raw score difference translates into a difference of four percentile points (pre-career mean scores are in the 69th percentile, while the mid-career sample mean score is the 74th percentile). Thus we can say that all military personnel in the study appear to have higher than average scores in Emotion Control when compared to the United States Norm that is used to score the TEIQue, and there is evidence to suggest that this difference may increase during the first four to six years of military experience.

Table 4: Hypothesis 2

Results of t-tests and Descriptive Statistics Self-Control Factor for pre-career and mid-career military leaders

Outcome	Group						95% CI for Mean Difference	t	df
	Pre-Career			Mid-Career					
	M	SD	N	M	SD	n			
Self-Control	5.09	.6206	173	5.20	.6275	206	-.2343, .0189	1.67	377
EmReg	5.08	.7072	173	5.23	.7463	206	-.2983, -.0028	2.00*	377
ImpCon	4.80	.8335	173	5.10	.7829	206	-.4132, -.0862	3.00[†]	377
StressMgmt	5.37	.8004	173	5.27	.8280	206	-.2624, .0655	-1.18	377

* $p < .05$, [†] $p < .01$

Equal variance assumed based on Levene's Test for Equality of Variance. EmReg = Emotion Regulation, ImpCon = Impulse Control, StressMgmt = Stress Management.

Comparison of means provided strong support for Hypothesis 2b (impulse control): mid-career (M=5.1), pre-career (M=4.81); $t(377) = 3.003$, $p = .003$. This result is reinforced by power analysis that produced $1-\beta = .85$, though small effect size remained small (.31). This finding indicates that mid-career military leaders are less likely to be influenced by their impulses than pre-career military leaders. The mean raw score difference translates into a difference of 13 percentile points (pre-career mean scores are in the 52nd percentile, while the mid-career sample mean score is the 65th percentile). Thus we can say that all military personnel in the study appear to have scores above the 50th percentile in impulse control, and there is evidence to suggest that this difference may increase during the first four to six years of military experience.

Comparison of means did not provide support for Hypothesis 2c (stress management): mid-career ($M=5.32$), pre-career ($M=5.40$); $t(377) = .992, p = .322$. Thus, there does not appear to be a difference between pre-career and mid-career leaders in their ability to operate in stressful situations. The rigor of academy training could partially explain this result since the pre-career sample is comprised of Cadets who are in their fourth year of training and might have already benefited from an increase in this facet in their first four years.

The significant differences in emotion regulation and impulse control may underscore findings related to the neurological development of the pre-frontal cortex (PFC)—the area of the brain that is associated with decision making and self-control. Imaging studies indicate that the PFC continues to develop between the ages of 20 and 30 (Diamond, 2002; Sowell, Thompson, Holmes, Jernigan, & Toga, 1999). While it is possible that military experience (such as training and deployment) could account for development in this factor, the findings of this study do not support that explanation (see discussion on Hypothesis 5). Thus, we are pointed toward a biological explanation. In summary, differences between pre-career and mid-career military leaders in the areas of emotion regulation and impulse control indicate that leaders with more experience are more able to control their emotional states, and less prone to impulsiveness.

Hypothesis 3 proposed that the mid-career sample would exhibit higher scores on the Sociability factor with Hypothesis 3a comparing Emotion Management, Hypothesis 3b comparing Assertiveness, and Hypothesis 3c comparing Social Awareness between the pre-career and mid-career samples (see Table 5). The tests comparing means did not produce any significant results at the factor or facet levels, thus Hypothesis 3 is not supported.

As with Hypothesis 1, it is possible that this null result reflects stability of the Sociability factor across samples at different points in a leader's career. It is also possible that the highly

structured environment and leadership cultivation emphasis at the military academy in the pre-career sample positively influenced the pre-career sample in terms of Social Awareness, Assertiveness, and Emotion Management. Future analysis could compare military samples to a civilian norm group to ascertain whether or not military training appears to have an effect on Sociability in military leaders.

Table 5: Hypothesis 3
Results of t-tests and Descriptive Statistics Sociability Factor for pre-career and mid-career military leaders

Outcome	Group						95% CI for Mean Difference	t	df
	Pre-Career			Mid-Career					
	M	SD	n	M	SD	n			
Sociability	5.33	.6454	173	5.26	.6027	206	-.0616, .1909	1.007	377
EmotMan	5.35	.7055	173	5.25	.6655	206	-.0373, .2401	1.44	377
Assertive	5.29	.7903	173	5.31	.7022	206	-.1729, .1287	-.288	377
SocAware	5.35	.7715	173	5.24	.8165	206	-.0478, .2751	1.384	377

* $p < .05$, † $p < .01$. Equal variance assumed based on Levene's Test for Equality of Variance. "EmotMan" = Emotion Management, "Assertive" = Assertiveness, "SocAware" = Social Awareness.

Hypothesis 4 proposed that the mid-career sample would exhibit higher scores on the Adaptability facet of Trait Emotional Intelligence between the pre-career and mid-career samples (see Table 6). The test comparing means did not produce significant results, thus we can say that Hypothesis 4 is not supported: mid-career military leaders do not appear to be more able to adapt to new circumstances when compared to pre-career military leaders.

Table 6: Hypothesis 4

Results of t-tests and Descriptive Statistics Adaptability Facet for pre-career and mid-career military leaders

Outcome	Group						95% CI for Mean Difference	t	df
	Pre-Career			Mid-Career					
	M	SD	n	M	SD	n			
Adaptability	4.76	.7015	173	4.8014	.6950	206	-.1800, .1031	-.534	377

* $p < .05$, † $p < .01$. Equal variance assumed based on Levene's Test for Equality of Variance.

Adding to the possible explanations listed above for the null results in Hypotheses 1 and 3, it is possible that scores on the adaptability facet reflect preference more than trait-level differences. For example, mid-career military leaders might prefer well-established systems that have proven to be effective to new methods. This theoretical preference would not preclude the possibility that mid-career leaders might respond more favorably when the environment requires adaptability. Future studies could compare military samples to civilian samples to see if interesting differences emerge.

Hypothesis 5 proposed that variation in mid-career EI scores can be explained through a combination of deployment and training experience. The block regression analysis did not produce significant results (see Table 7). Additional analysis was conducted to see if the model would accurately predict variation in the facets of Impulse Control and Emotion Regulation based on the significant differences between pre-career and mid-career leaders listed above. This additional analysis resulted in significant prediction of Impulse Control, ($R^2=.013$, $p=.024$), but did not predict Emotion Regulation. For Impulse Control, it was important to consider ΔR^2 in order to more precisely describe the relationship between predictors (deployment in months, and training) and the dependent variable. Results clearly indicate that deployment in months is the strongest predictor since training-related predictors were not significant when deployment months were in the model (see Table 8). Subsequent analysis using age as a predictor for

Impulse Control was completed in order to identify whether or not increases in Impulse Control might be interpreted as a result of aging, regardless of deployment experience. Age was a significant predictor of Impulse Control ($R^2=.012$, $p=.033$), and deployment in months did not add to the model when age was added first (see Table 9).

These findings suggest that the proposed model does not predict variation in Trait Emotional Intelligence or Emotion Regulation, but does predict Impulse Control through deployment experience (in months). Additionally, it appears that variations in Impulse Control as predicted through deployment time is more strongly related to the natural aging process than the unique experiences in deployed environments.

There are several possible explanations for this result. First, it is possible that the coding system proposed in this study does not accurately capture training experience or combat training center experience. Developments in Trait Emotional Intelligence are likely due to increased self-awareness obtained through experience. Accordingly, it is possible that merely experiencing the training might not be enough; the training would need to have had an impact on self-awareness. In future studies, it would be wise to incorporate items that measure self-report impact of training, rather than dichotomous items.

Deployment coded in months was not a significant predictor of variation in TEI, which can be viewed as a positive result in application since deployment frequency and intensity are currently much lower than they were during the height of the wars in Iraq and Afghanistan. The increases that we find when we compare pre-career and mid-career leaders in Impulse Control and Emotion Regulation indicate important developments in the first years of military service. If those developments were explained by deployment to combat, then it would follow that mid-career leaders who do not deploy would remain at their pre-career levels of Impulse Control and

Emotion Regulation. As it is, it appears that another variable—perhaps time in service—might explain this development. Unfortunately, time in service was not a useful variable in the data set due to the fact that the mid-career leaders in the sample attend the course at the same phase of their career.

Hypothesis 6 proposed that the mid-career leaders with combat deployment experience exhibit lower scores than mid-career leaders with no combat deployment experience on several facets within the Emotionality factor with Hypothesis 6a comparing Empathy, Hypothesis 6b comparing Emotion Perception, and Hypothesis 6c comparing Emotion Expression (see Table 8). The tests comparing means did not produce any significant results at the factor or facet levels, thus we can say that Hypothesis 6 is not supported.

There are several possible reasons why we might not find significant differences between deployed and non-deployed military leaders. First, it is possible that the sample size for the non-deployers (n=47) was not large enough to accurately identify differences. Second, the survey was not designed to measure the intensity of the leader's combat experience. The survey item only allowed the leader to indicate whether they were deployed to Iraq, Afghanistan, or both. Since most of the mid-career leaders in the study entered active service after 2010, it is quite possible that the roles they filled during their rotations—especially in Iraq—were advisory-oriented rather than combat oriented. Future research should seek to quantify combat experience with greater specificity.

Finally, MANOVA was used to compare the fifteen facets of Emotional Intelligence between the pre-career and mid-career samples. This is related to Hypothesis 1, but does not use the “Global EI Score” as provided by the TEIQue instrument, and instead examines all facets against each other simultaneously. This multivariate procedure generated a significant outcome

based on a Wilks' Lambda value of .889 ($F=3.026$, $p<.001$), indicating the presence of a linear combination of the fifteen facets between pre-career and mid-career military leaders that are significantly different. In order to understand this difference more precisely, it was necessary to perform a discriminant analysis to determine which facets contributed to the significant MANOVA. The results of the discriminant analysis identify the top 10 (in order of importance) contributing facets as Impulse Control, Emotion Regulation, Emotion Perception, Emotion Management, Social Awareness, Emotional Expression, Self-Motivation, Empathy, and Stress Management. Further detail was acquired by performing the Roy-Bargman stepdown process as proposed in Tabachnick and Fidell (2007), and Stevens (1996).

The Roy-Bargman process evaluated contributing facets that were identified in the discriminant analysis as they were entered one-at-a-time. This stepdown process revealed that Impulse Control continued to be the greatest contributor to the model $F(1, 377) = 9.02$, $p<.01$, and Emotion Regulation (which was previously the second most important predictor) was no longer significant. This indicates that Impulse Control accounted for most of the variance that contributed to the significant pairwise t test in Hypothesis 2. The other significant contributors to MANOVA as identified through the Roy-Bargman procedure are Emotion Perception, $F(1, 375) = 7.91$, $p<.01$; Emotion Expression $F(1, 372) = 11.29$, $p<.001$; and Stress Management $F(1, 369) = 9.09$, $p<.01$. The significance of Stress Management offers some reinforcement for Hypothesis 2, building on the position that there appear to be important differences between pre-career and mid-career officers on the Self-Control Factor.

Discussion

The results of this study indicate that there do not appear to be systemic differences in Emotional Intelligence between pre-career and mid-career military leaders in thirteen of the fifteen facets measured in the TEIQue. However, differences do seem to exist within the Self-Control Factor. These differences manifest most clearly in the facets of Emotion Regulation (ER), and Impulse Control (IC).

Mackay, Hogg, Cooke, Baker, and Dawkes (2012) noted that ER and IC are important facets for effective leaders. As mentioned, it appears that in the first formative years of a military career, Infantry and Armor officers improve their ability to regulate their emotions and control their impulses, but the present study does not adequately explain what variables in the mid-career sample might explain this development. Two explanations are proposed: First, it might be that military culture as a whole cultivates leaders who have stronger abilities to regulate their emotions and control their impulses. Second, it is quite likely that these changes are due to the neural development in the pre-frontal cortex. The second explanation is supported through regression analysis that showed age as the most significant predictor of Impulse Control. However, it might be the case that age is only a predictor of Impulse Control within military samples.

Limitations

The first limitation of this research is generalizability concerns revolving around the unique nature of the study participants that were used. Not only are all study participants in

the military, they constitute two branches within the military (Infantry and Armor), and are exclusively male. It is unclear if the findings in this study would be consistent across all branches and genders, and might not extend to civilian contexts. There are also several missed opportunities in the present study. First, the demographic items used to build the regression model to predict TEI could be greatly improved. Deployment was measured in months, but there might be other useful ways to measure combat experience (such as total number of patrols, patrols per day, or other similar items). Additionally, time spent in direct leadership positions was not included in the survey. Junior military leaders are afforded varying amounts of leadership time in their platoons and as company executive officers. Additionally, some junior leaders are exposed to the challenges of combat deployment during their leadership time, while others lead in garrison. The rich variety in these experiences, if measured, might have provided valuable insight into the development of mid-career leaders.

In addition to deployment experience, the theory proposed in this study placed special emphasis on Combat Training Center (CTC) experience. These training facilities are designed to expose rotational units to a wide array of challenges that mirror combat or other real-world mission sets as closely as possible. Coding of CTC rotations in this study did not adequately parse out the varying levels of learning that might occur as a result of CTC experiences, and could only be used in the model as a simple dichotomous variable. There is no way to know if more accurate measurement might have made a difference in the model, but it is clear that CTCs play a unique role in leader development in high-stress team learning contexts. Should the military seek to incorporate Emotional Intelligence familiarization and training, the CTCs would be a useful venue for such an initiative. One way this could occur is through EI-trained instructors at CTCs who could provide leader feedback during after-action reviews utilizing “EI

language.” For example, “let’s talk about your efforts to inspire and motivate your exhausted subordinates during that protracted engagement.” Such feedback would provide useful self-awareness information related to EI facets emotion management, emotion perception, and emotion expression.

Variation in Emotional Intelligence was not explained by the combination of deployment experience and training in this study. However, future studies should continue to investigate what factors might influence facet, factor, and global TEI scores in military leaders. Several shortfalls of this study, some elaborated upon in the limitations section below, might be addressed in future studies to improve results. First, items should be generated to better measure the leadership experience in the mid-career sample. For example, number of months spent as a platoon leader would provide interesting (and quantifiable) insight into a formative period in a leader’s professional development. It should also be noted that the training experiences in this study were a combination of dichotomous responses and did not reflect any efficacy-related training results. In other words, it might be that training experience will only influence Emotional Intelligence in leaders who see that training as valuable or formative in their career. Other important variables to measure might include more specific measurement of combat exposure, performance history, cognitive ability, and time spent in direct leadership positions (Platoon Leader and Executive Officer) versus staff positions (e.g. Assistant Operations Officer). We might find that length of time in these formative leadership positions might explain some variation in EI facets.

Lastly, it is necessary to address several considerations when evaluating Hypothesis 6. The primary concern when evaluating Hypothesis 6 (combat deployment effects on Emotionality factor) was the relatively small sample size that was present in the non-deployed group. Only 47

individuals did not have deployment experience to either Iraq or Afghanistan, which was not a large enough sample to accurately reflect group-level differences. Additionally, it could be that military culture as a whole might have a negative impact on Emotionality factor scores. Subsequent studies could compare military personnel to a similar aged civilian sample to investigate these possible explanations.

In light of these limitations, it is clear that there is more work to be done in the Emotional Intelligence line of effort. The military has rich legacy of innovation in talent management and contributions to the social sciences. Emotional Intelligence research could be the next important direction for military psychologists to direct their focus and could lead to important insights into the art and science of leadership.

Future research directions

Researchers who are interested to know if differences in the Self-Control factor are due to age or military culture could conduct a follow-on study to compare the pre-career sample to a civilian sample that matches the mid-career sample in as many aspects as possible (age-range should be matched at a minimum). If there is no difference between the pre-career sample and the civilian sample it might be surmised that military culture influences individual scores in emotion regulation and impulse control. Alternately, the pre-frontal cortex development position would be strengthened if we find that the civilian sample of relatively older individuals does reflect higher levels of ER and IC when compared to the pre-career sample.

The present cross-sectional study could be expanded in future studies through a larger sample of military leaders with varying levels of experience. Such a study could identify the possible impact that time in service might have on facet-level increases in impulse control and emotion regulation. Such a study could essentially map out Emotional Intelligence over the

course of military careers, and could produce useful insights into the most important experiences, jobs, and training experiences that might contribute to development. Most importantly, researchers should seek to obtain samples of leaders who are currently or recently served in key and developmental positions, such as command or high-profile staff positions (to include operations officers and executive officers). These are the professional gates that successful officers must navigate through in order to be viable candidates for promotions and selective assignments.

Practical implications

For the military, the results of this study reinforce the building body of evidence in the private sector, and indicate that TEI could be a useful construct to identify successful leaders (Mackay et al., 2012). Should military leaders seek to utilize the Petrides model as used in this study, items designed to measure Adaptability should be adjusted to reflect Mental Agility as described in ADP 6-22 more accurately. Mental Agility implies an ability to effectively adapt to a dynamic or changing environment, not necessarily the propensity to seek out change—which is more consistent with the Army Leader Attribute “Intellect” sub-component “Innovation.” Additionally, “Self-Motivation” items might be modified for military use to accommodate the positive aspects of goal-orientation. In military contexts, self-motivation might be described as being driven, or goal-oriented. Interestingly, someone who is goal-oriented might score low on the Self-Motivation facet as measured in the TEIQue since being driven by goals could be construed as being externally motivated.

The similarities between the Trait Emotional Intelligence model and Army Leader Attributes and Competencies as outlined in ADRP 6-22 and evaluated on Officer Evaluation Reports demand attention (Hilmes, 2015). The Army invests tremendous effort in leader

development and talent management, but many of the efforts vary greatly from branch to branch (e.g. Infantry to Signal Corps) and from unit to unit. Emotional Intelligence has been shown to be a useful predictor of performance in the civilian sector, but its predictive ability has not been assessed in military contexts. Future studies should evaluate the extent to which TEI measures can predict success in key and developmental military positions. If TEI can be shown to predict performance in these duty assignments, it may be time for the military to consider the incorporation of a TEI measure into officer recruitment and development efforts.

It is important to point out that leaders should choose between the aforementioned purposes—recruitment or development—based on the competitive connotation that will emerge if an instrument is used for high-stakes decisions (such as selection or promotion). For this reason, I advocate the use of Trait Emotional Intelligence instruments as a self-awareness tool to be used in concert with (and nested in) other leader feedback instruments. The most important innovation could be to modify the existing 360° Multi-Source Assessment and Feedback (MSAF) tool. Incorporation of the TEIQue and modification of the 360° MSAF instrument to measure facets of Trait Emotional Intelligence would allow leaders to examine their self-perceptions alongside the perceptions of their subordinates and peers.

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Appendix A: Officer Evaluation Report

HQDA#	Attachments Menu
COMPANY GRADE PLATE (O1 - O3; WO1 - CW2) OFFICER EVALUATION REPORT	
For use of this form, see AR 623-3; the proponent agency is DCS, G-1.	
See Privacy Act Statement in AR 623-3.	
PART I - ADMINISTRATIVE (Rated Officer)	
a. NAME (Last, First, Middle Initial)	b. SSN
c. RANK	d. DATE OF RANK (YYYYMMDD)
e. BRANCH	f. COMPONENT (Status Code)
g. UNIT, ORG., STATION, ZIP CODE OR APO, MAJOR COMMAND	
h. UIC	
i. REASON FOR SUBMISSION	
j. PERIOD COVERED FROM (YYYYMMDD) THRU (YYYYMMDD)	
k. RATED MONTHS	l. NON RATED CODES
m. NO. OF ENCLOSURES	n. RATED OFFICER'S EMAIL ADDRESS (.gov or .mil)
PART II - AUTHENTICATION (Rated officer's signature verifies officer has seen completed OER Parts I-VI and the administrative data is correct)	
a1. NAME OF RATER (Last, First, Middle Initial)	a2. SSN
a3. RANK	a4. POSITION
a5. EMAIL ADDRESS (.gov or .mil)	a6. SIGNATURE
a7. DATE (YYYYMMDD)	
b1. NAME OF INTERMEDIATE RATER (Last, First, Middle Initial)	b2. SSN (Optional)
b3. RANK	b4. POSITION
b5. EMAIL ADDRESS (.gov or .mil)	b6. SIGNATURE
b7. DATE (YYYYMMDD)	
c1. NAME OF SENIOR RATER (Last, First, Middle Initial)	c2. SSN
c3. RANK	c4. POSITION
c5. SENIOR RATER'S ORGANIZATION	c6. BRANCH
c7. COMPONENT	c8. SENIOR RATER PHONE NUMBER
c9. EMAIL ADDRESS (.gov or .mil)	c10. SIGNATURE
c11. DATE (YYYYMMDD)	
d. This is a referred report, do you wish to make comments? <input type="checkbox"/> Referred <input type="checkbox"/> Yes, comments are attached <input type="checkbox"/> No	
e1. SIGNATURE	e2. DATE (YYYYMMDD)
f1. Supplementary Review Required? <input type="checkbox"/> Yes <input type="checkbox"/> No	f2. NAME OF REVIEWER (Last, First, Middle Initial)
f3. RANK	f4. POSITION
f5. Comments Enclosed <input type="checkbox"/> Yes <input type="checkbox"/> No	
f6. SIGNATURE	f7. DATE (YYYYMMDD)
g. MSAF Date (YYYYMMDD)	
PART III - DUTY DESCRIPTION	
a. PRINCIPAL DUTY TITLE	b. POSITION AOC/BRANCH
c. SIGNIFICANT DUTIES AND RESPONSIBILITIES	
PART IV - PERFORMANCE EVALUATION - PROFESSIONALISM, COMPETENCIES, AND ATTRIBUTES (Rater)	
a. APFT Pass/Fail/Profile: _____ Date: _____ Height: _____ Weight: _____ Within Standard? _____ Comments required for "Failed" APFT, or "Profile" when it precludes performance of duty, and "No" for Army Weight Standards? Reset Item a. APFT/Pass/Fail/Profile	
b. This Officer's overall Performance is Rated as: (Select one box representing Rated Officer's overall performance compared to others of the same grade whom you have rated in your career. Managed at less than 50% in EXCELS.) I currently rate _____ Army Officers in this grade. A completed DA Form 67-10-1A was received with this report and considered in my evaluation and review: <input type="checkbox"/> Yes <input type="checkbox"/> No (explain in comments below) EXCELS (49%) PROFICIENT CAPABLE UNSATISFACTORY Comments: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

HQDA#:

NAME:		SSN	PERIOD COVERED: FROM (YYYYMMDD)	THRU (YYYYMMDD)
c. 1) <u>Character:</u> <i>(Adherence to Army Values, Empathy, and Warrior Ethos/ Service Ethos and Discipline. Fully supports SHARP, EO, and EEO.)</i>				
c. 2) <u>Presence:</u> <i>(Military and Professional Bearing, Fitness, Confident, Resilient)</i>				
c. 3) <u>Intellect:</u> <i>(Mental Agility, Sound Judgment, Innovation, Interpersonal Tact, Expertise)</i>				
c. 4) <u>Leads:</u> <i>(Leads Others, Builds Trust, Extends Influence beyond the Chain of Command, Leads by Example, Communicates)</i>				
c. 5) <u>Develops:</u> <i>(Creates a positive command/ workplace environment/Posters Esprit de Corps, Prepares Self, Develops Others, Stewards the Profession)</i>				
c. 6) <u>Achieves:</u> <i>(Gets Results)</i>				
PART V - INTERMEDIATE RATER				
PART VI - SENIOR RATER				
a. POTENTIAL COMPARED WITH OFFICERS SENIOR RATED IN SAME GRADE (OVERPRINTED BY DA)		b. I currently senior rate _____ Army Officers in this grade.		
<input type="checkbox"/> MOST QUALIFIED <i>(limited to 49%)</i> <input type="checkbox"/> HIGHLY QUALIFIED <input type="checkbox"/> QUALIFIED <input type="checkbox"/> NOT QUALIFIED		c. COMMENTS ON POTENTIAL:		
		d. List 3 future <u>SUCCESSIVE</u> assignments for which this Officer is best suited:		

Appendix B: Tables

Table 1. *The Trait Emotional Intelligence Domain*

Factor	Facet	High scorers view themselves as
Well-Being	Happiness	Cheerful and satisfied with their lives
	Optimism	Confident and likely to “look at the bright side”
	Self-Esteem	Successful and confident
Self-Control	Emotion Regulation	Capable of controlling their emotions
	Impulse Control	Reflective and less likely to give in to their urges
	Stress Management	Capable of withstanding pressure and regulating stress
Emotionality	Empathy	Capable of taking someone else’s perspective
	Emotion Perception	Clear about their own and other people’s feelings
	Emotion Expression	Capable of communicating their feelings to others
	Relationships	Capable of maintaining fulfilling personal relationships
Sociability	Emotion Management	Capable of influencing other people’s feelings
	Assertiveness	Forthright, frank, and willing to stand up for their rights
	Social Awareness	Accomplished networkers with superior social skills
Independent Facets	Adaptability	Flexible and willing to adapt to new conditions
	Self-Motivation	Driven and unlikely to give up in the face of adversity

Note. Table contents derived from Petrides (2010) and the Petrides and Thomas International’s Trait Emotional Intelligence Questionnaire Sample Report (2012).

Table 2. *Theoretical Connections between Trait EI and Army Leader Requirements*

Trait Emotional Intelligence		Army Leader Requirements	
EI Factor	EI Facet	Attribute or Competency	Sub-component(s)
Well-Being	Happiness	Attribute Presence	Resilience
	Optimism	Attribute Presence	Resilience
	Self-Esteem	Attribute Presence	Confidence
Self-Control	Emotion Regulation	Attribute Presence	Professional Bearing
	Impulse Control	Attribute Character	Discipline
Emotionality	Stress Management	Attribute Presence	Professional Bearing
	Empathy	Attribute Character	Empathy
	Emotion Perception	Attribute Character	Empathy
	Relationships	Competency Develops	Prepares Self
	Emotion Expression	Competency Leads	Communicates
		Competency Leads	Builds Trust
		Competency Develops	Develops Others
Sociability	Emotion Management	Competency Develops	Creates a positive environment
		Attribute Intellect	Interpersonal Tact
	Assertiveness	Competency Leads	Leads Others
Independent Facets	Social Awareness	Attribute Intellect	Interpersonal Tact
		Competency Leads	Extends influence beyond the chain of command
	Adaptability	Attribute Intellect	Mental Agility
		Attribute Intellect	Innovation
	Self-Motivation	Attribute Character	Warrior Ethos (Never Quit)

Note. Table contents derived from Petrides (2010) and the Trait Emotional Intelligence Questionnaire Sample Report.

Table 7: Hypothesis 5

Summary of Regression Results using Deployment Months and Training Experience to predict Trait Emotional Intelligence

Variable	β		R^2	ΔR^2
	Model 1	Model 2		
1. Deployment Months	.027	.048	.001	.001
2. Training Experience			.009	.008
CTC		-.069		
Ranger		.051		
SFAS		.037		
SERE		.016		
CSF2		-.053		
Sapper		.009		

* $p < .05$, † $p < .01$

“CTC” = Combat Training Center; “SFAS” = Special Forces Assessment and Selection; “SERE” = Survival, Evasion, Resistance, and Escape; “CSF2” = Comprehensive Soldier and Family Fitness.

Table 8

Summary of Regression Results using Deployment Months and Training Experience to predict Impulse Control

Variable	β		R^2	ΔR^2
	Model 1	Model 2		
1. Deployment Months	.116	.051	.013	.013*
2. Training Experience			.021	.008
CTC		.070		
Ranger		.047		
SFAS		0.00		
SERE		-.008		
CSF2		.014		
Sapper		.003		

* $p < .05$, † $p < .01$

“CTC” = Combat Training Center; “SFAS” = Special Forces Assessment and Selection; “SERE” = Survival, Evasion, Resistance, and Escape; “CSF2” = Comprehensive Soldier and Family Fitness.

Table 9

Summary of Regression Results using Age and Deployment Months to predict Impulse Control

Variable	β		R^2	ΔR^2
	Model 1	Model 2		
1. Age	.110	.054	.012	.012*
2. Deployment Months		.075	.015	.003

* $p < .05$, † $p < .01$

Table 10: Hypothesis 6

Results of t-tests and Descriptive Statistics Emotionality Factor for Deployed and Non-Deployed mid-career military leaders

Outcome	Group						95% CI for Mean Difference	t	df
	Deployed			Non-Deployed					
	M	SD	n	M	SD	n			
Emotionality	5.17	.6866	159	5.19	.6445	47	-.2458, .1977	-.214	204
Empathy	5.09	.8298	159	5.10	.9213	47	-.2956, .2618	-.119	204
EmotPercep	5.04	.8263	159	5.09	.7792	47	-.3166, .2176	-.365	204
EmotExpres	4.908	1.032	159	4.85	1.1055	47	-.2800, .4070	.364	204
Relationship	5.65	.7464	159	5.74	.6519	47	-.3287, .1467	-.755	204

* p < .05, †p < .01

Equal variance assumed based on Levene's Test for Equality of Variance. "EmotPercep" = Emotion Perception, "EmotExpress" = Emotion Expression.