

ABSTRACT

ALADIN, ROBERLY. Leader Self-Awareness: An Investigation into the Predictive and Incremental Validity of Emotional Intelligence. (Under the direction of committee chair Dr. Bart Craig).

Leader self-awareness has been found to predict leader performance (Yammarino & Atwater, 1997), and leaders that are more self-aware are thought to be less rigid, and therefore less likely to derail (McCartney & Campbell, 2006). Leadership initiatives have embraced emotional intelligence as one factor presumed to enhance self-awareness (Day, 2001). Despite this presumption, no such research has directly investigated the relationship between emotional intelligence and self-awareness. This study investigated the relationship between emotional intelligence and self-awareness, operationalized as self-other agreement in performance ratings, and the incremental validity of emotional intelligence above and beyond two previously established predictors of self-awareness: cognitive ability and the Big Five personality traits. One hundred managers completed surveys measuring their leadership performance, emotional intelligence, cognitive ability, and personality. Upward ratings of leadership performance were obtained from the managers' subordinates, and difference scores were computed and used as indicators of self-awareness. Correlation analyses revealed no significant relationship between emotional intelligence and managers' self-awareness. Furthermore, none of the Big Five Personality traits was correlated with managers' self-awareness. Only college GPA, a proxy for cognitive ability was found to correlate with managers' self-awareness. Last, emotional intelligence did not provide incremental validity above and beyond cognitive ability and the Big Five personality traits. These findings fail to support previous research implicating emotional intelligence as a predictor of self-awareness, and raise questions regarding the emphasis on emotional intelligence in leadership

development initiatives geared towards enhancing leader self-awareness. Findings of the significant relationship between college GPA and self-awareness offer support for the use of cognitive ability in hiring and promotion systems for managers. Theoretical and practical implications for research on emotional intelligence and self-awareness are offered.

Leader Self-Awareness: An Investigation into the Predictive and Incremental Validity of
Emotional Intelligence

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Leader Self-Awareness: An Investigation into the Predictive and Incremental Validity of Emotional Intelligence

Importance of Leadership to Organizations

According to Mills (2005), “leadership influences the thoughts and behaviors of others in a substantial way. It may involve charisma, important objectives, a formal position, and a particular set of behaviors, but it is not limited to any of them.” This identification distinguishes leaders from other positions of responsibility within the organization such as managers or administrators. Whereas managers and administrators are more concerned with interpreting and applying rules and regulations, and keeping records, leaders create a vision, communicate that vision, motivate followers to action, and help an organization grow and evolve (Mills, 2005). In order to accomplish this, effective leaders need to understand how they are perceived by others—to be “self-aware”—in order to stifle rigidity and promote flexibility in themselves, and need to be interpersonally skilled in order to motivate followers to action.

Leaders with the aforementioned skills, who are able to move their followers to committed work, are often called transformational leaders [(Burns, 1978; Bass, 1985)]. Organizations often invest a great amount of time and money in selecting and developing transformational leaders. A recent Forbes Magazine article identifies management training as the number one source of training expenses (35%) among corporations globally, with a total of \$130 billion spent worldwide in 2014 (Bersin, 2014). This is not surprising since leaders generally have been tied to various organizational outcomes. A meta-analysis by DeGroot,

Kiker, and Cross (2000) on the effects of charismatic leadership on organizational outcomes found an association between charismatic leadership and subordinate performance, particularly at the group level. Other studies examining the relationship between leadership and organizational outcomes indicate that leadership affects performance indirectly via its influence on subordinate commitment (Avolio, Zhu, Koh, and Bhatia, 2004; Babcock-Roberson & Strickland, 2010). More specifically, research by Avolio et al. (2004) found an association between transformational leadership and employee organizational commitment. After surveying 520 nurses in a Singapore hospital, Avolio et al. (2004) found that those nurses who felt more empowered by their transformational leaders were more committed to the organization. This may be due to the increased linkage between follower effort and goal accomplishment as a result of subordinate empowerment (Shamir, House, & Arthur, 1993).

Research has found that greater organizational commitment is associated with greater work engagement (Babcock-Roberson & Strickland, 2010). Affectively committed employees share similar visions with their leaders, and feel a greater connection between their work and the goals of the organization (Locke & Latham, 1990). Consistent with these claims, a study by Babcock-Roberson and Strickland (2010), in which they examined charismatic leadership, which is often associated with transformational leadership, revealed that young employees under greater charismatic leadership displayed greater work engagement. Furthermore, regression analysis showed that work engagement mediated the relationship between charismatic leadership and organizational citizenship behavior, suggesting that leadership can have intangible effects on the organization as well.

Often leadership succession can alter an organization's performance as displayed by Guest's (1962) case study. In his case study of an automobile factory undergoing changes in executive personnel, performance dramatically increased after a change in leadership. Prior to the change in leadership, Plant Y suffered from various organizational flaws such as poor quality of output, high absenteeism and turnover, as well as failure to meet scheduling changes. After replacing the plant manager, there was a reduction in interpersonal conflict and the plant's performance increased, eventually outperforming six identical plants in the area. Leadership change can reduce performance as well. In Gouldner's *Patterns of Industrial Bureaucracy* (1954), a gypsum plant replaced their "casual and indulgent" leader with a rigid, and dogmatic one. The employees resisted the stringent rules of the new leader, and interpersonal conflicts ensued, leading to a decrease in overall performance. The effects of leadership on organizational performance, shown in those two studies, suggest that leaders that are inappropriate for the context of the organization can alter the direction of an organization for better or for worse.

Impact of Leadership Development

When appointing leaders to positions of power, it is important to ensure that these individuals not only have characteristics of successful leaders but also that the organization does not impede their development. Often when newly promoted leaders make the initial transition into their new positions they are wrought with excitement, only to be overwhelmed by unexpected challenges and responsibilities, many of which could be overcome by supervisory training (Grove, 2008). In the report, *A Call to Action: Improving First-Level*

Supervision of Federal Employees, the U.S. Merit Systems Protection Board (MSPB) concluded that many transitioning first-line supervisors in federal agencies are expected to execute their jobs without preparation [Marrelli, A. (Ed.), 2010]. This seems to be a longstanding problem, as in 1992 the MSPB found that many first line supervisors were placed in situations without the requisite skills to perform successfully. By 1998, the MSPB concluded that the training that did exist focused primarily on “processes and procedures rather than hands-on management.” Nine years later, in a 2007 Merit Principles Survey (MPS), the MSPB confirmed their earlier reports that training for first-line supervisors in federal agencies was inadequate [Marrelli, A. (Ed.), 2010]. When asked about the learning opportunities they received through formal or informal training, less than two thirds (64%) of first-line supervisors reported that they received training preceding or during their first year as supervisor. Of those that did receive training, nearly half received a week or less of training. Of course, quantity of training is not a direct measure of the quality of training, but considering the demands of first line-supervisors, which require both management and leadership skills, it seems unlikely that all the necessary skills can be learned within a week’s worth of training. In fact, research by Peterson (1993) and Peterson and Hicks (1993) revealed that an intervention program lasting up to a year was much more effective at changing destructive leadership traits than was a three- to five- day standardized leadership training program.

This trend is consistent across industries. A 2014 Harvard Business Review report surveying 610 cross-industry, senior-level managers and executives from firms across the

globe revealed that “in the vast majority of organizations, front-line managers are not offered robust enough training programs to meet job demands” (Harvard Business Review Analytic Services, 2014, p. 4). Forty percent of respondents indicated that front-line managers did not receive sufficient tools and training to develop into highly effective leaders. When asked to describe the management training received in their firms, respondents expressed that training was in spurts, and that lack of ongoing training was an issue. Furthermore, respondents claimed that feedback was punitive and used mainly for administrative purposes. Lastly, 79% believed that lack of front-line manager development negatively impacted their firms moderately or substantially.

The ultimate sign of failure for a transitioning supervisor is derailment. Derailment occurs when managers or executives are “involuntarily plateaued, demoted, or fired below [their] level of achievement” or when they reach that level “only to fail unexpectedly” (Lombardo, Ruderman, & McCauley, 1988, p. 199). McCartney and Campbell’s (2006) model of individual success and failure identifies which leaders are most at risk for derailment. In their model, successful leadership requires both management and leadership skills. The higher leaders are on both dimensions, the more successful they are likely to be. Conversely, the lower they are on both factors, the less likely they are to be selected. Importantly however, when leaders are medium performers on one dimension, and low performers on the other, they are more likely to be derailed. These candidates are in high need of training. Therefore, it is important to provide leaders who have medium or better management skills, with leadership training in order to prevent derailment. Of additional

importance for organizations to note is that leadership training does not only reduce derailment, but advances performance beyond just satisfactory levels. According to McCartney and Campbell, leaders who are medium performers on both management and leadership skills, are unlikely to achieve their maximum potential if they do not receive continued development. In fact, the authors label these leaders as those in most need of development. McCartney and Campbell's model not only identifies those at most risk for derailment, but identifies those that would benefit most from development.

It is important to follow up with transitioning leaders for various reasons. Often, characteristics that are effective at lower levels of the organization become ineffective at higher levels of the organization (McCartney & Campbell, 2006). In the case of transitioning executives especially, reactive-reaction problem solving may be effective at the middle management level, but become insufficient for the proactive role of higher-level executives. Rigidity and an inability to adapt is credited with being one of the most common causes of failure for leaders (McCartney & Campbell, 2006). In order to change this, leaders must not only learn effective behaviors, but also be aware of their ineffective behaviors so they can change them. Fortunately, leadership development interventions work to reach such goals, often by targeting the building and usage of intrapersonal and interpersonal competence (Day, 2001).

There are various leadership development techniques used in modern organizations that target intrapersonal and interpersonal competencies. These interventions include executive coaching, mentoring, networking, and the most widely applied of them all among

Fortune 500 companies, multisource or “360-degree” performance appraisals (London & Smither, 1995). The effects of leadership development interventions on organizational outcomes are difficult to summarize, since their impact is rarely reported, mostly appearing in the form of unpublished dissertations (Knodt, 1990; Saling, 2005; Thompson, 1986). However, the little empirical research available is promising for those looking to invest in corporate leadership. Thompson’s (1986) study of leaders who were at risk for derailment showed that those at-risk leaders who completed leadership training performed better than those who did not complete training on 11 of 15 outcome measures. Additionally, in Knodt’s unpublished dissertation, he found that one-on-one coaching in addition to feedback significantly increased performance over feedback alone on behavioral people-management practices (1990). Smither, London, Flautt, Vargas, and Kucine (2003) corroborated these findings in a similar study of 1361 senior managers in a global financial services organization, where executive coaching enhanced supervisors’ feedback-seeking practices.

Research on leader-member exchange indicates that by developing better relationships between leaders and followers, organizations can increase performance (Graen, Scandura, & Graen, 1986). In one study, Graen et al. (1986) found that leaders who accepted the opportunity to develop high-quality relationships with their subordinates, via leadership training, showed a dramatic increase in subordinate performance over leaders who did not accept training. Leader-Member Exchange (LMX) theory suggests that leaders and group members form a career-oriented social exchange, where the two grow a mutual respect, trust, and feeling of obligation to one another (Graen & Uhl-Bien, 1995). Whether by developing

the leader-member relationship in Graen et al.'s study (1986), or by developing interpersonal and intrapersonal competencies like was the case in Knodt's (1990) and Smither et al.'s (2003) studies, leadership development interventions have been shown to be effective at increasing the desirable characteristics of a leader. The aforementioned research supports the suggestion by Avolio and Gardner (2005) that characteristics associated with effective leadership are state-like, and can be developed and built over time.

Importance of Multisource Ratings for Leadership Development

As previously mentioned, 360-degree performance appraisals are the most commonly used leadership development tools in organizations (London & Smither, 1995). Even "leaders of the corporate sector" such as AT&T, Exxon, GE, IBM, Caterpillar, Levi Strauss, and Shell Oil have used 360-degree appraisals (Ghorpade, 2000). Due to its application in other leadership development programs such as executive coaching, mentoring, and networking, 360-degree performance assessments are integral to almost all modern leadership development efforts.

360-degree performance appraisals incorporate ratings from supervisors, peers, subordinates, and the self. The benefit of 360-degree performance appraisals is based on the proposition that different sources capture different perspectives on leaders' behavior (Yammarino & Atwater, 1997). Low inter-correlations between source ratings support this assumption. This may be because different sources observe behaviors that are more pertinent to their own success. For example, research suggests that subordinates pay closer attention to

perceived support or autonomy from their boss, while peers focus attention on the subject's collaborative nature and how well he or she facilitates their work (Craig & Hannum, 2006).

360-degree performance assessment is popular primarily because of its usefulness as a development tool, its ease of implementation, as well as its contribution towards self-understanding (Day, 2001; Waldman, Atwater, & Antonioni, 1998). Differences between subjects' self-ratings and those from other raters allow for insights into leaders' self-awareness, which due to its associations with leadership performance, make it a necessity in the business world (Day, 2001; Petrie, 2014).

Self-Other Agreement

Self-awareness in an organizational context has been defined as “being aware of one's strengths and weaknesses as well as understanding one's emotions and personality” (Ilies, Morgeson, & Nahrgang, 2005, p. 378). Self-awareness is often operationalized as congruence across self and other ratings (self-other agreement; SOA), although there are other popular and more complex operationalizations such as componential scores, which take an interpersonal approach by decomposing self-enhancement (the inflation of self-ratings) into three components: perceiver effect (how an individual tends to see others), target effect (how an individual tends to be seen by others) and the relationship effect (how a perceiver uniquely sees the target). All three components are used to compute a componential score, which can be used to attribute self-ratings to either genuine (reflective of performance) or delusional (not reflective of performance) self-esteem (Kwan, John, Kenny, Bond, & Robins, 2004; Kwan, John, Robins, & Kuang, 2008). As previously mentioned, since 360-degree

performance appraisals include information from different sources, they are particularly useful for measuring one's self-awareness. By correlating one's self-other agreement (SOA) from 360-degree performance appraisals with various organizational outcomes, researchers can use SOA to better predict leader behavior.

Yammarino and Atwater (1997) categorized the self-awareness of leaders based on their discrepancy between self and observer ratings. First, they categorized a subject as either in-agreement or not. These categories were then further subdivided. Those that were in-agreement were either in-agreement good (accurately rated themselves highly) or in-agreement poor (accurately rated themselves poorly), while those that were not in-agreement were either over-estimators (rated themselves higher than others rated them) or under-estimators (rated themselves lower than others rated them). According to Yammarino and Atwater (1997), in-agreement good employees were the most effective leaders, while in-agreement poor employees, were the least effective. Additionally, over-estimators suffered from career derailment, while under-estimators, though qualified, were less likely to pursue leadership positions. These categorizations of SOA suggest that employees' self-awareness along with their level of performance, can predict those most likely to be successful in leadership positions. This is useful for leader development initiatives, whose overarching emphasis tends to be on intrapersonal competence (Day, 2001).

In leadership initiatives, where the focus is on developing a healthy attitude and identity in order to form a self-model that can be used effectively in changing roles (Day, 2001; Gardner, 1993; Hall & Seibert, 1992), developing one's self awareness is key. In fact,

self-awareness was identified as a dimension of intrapersonal competence, along with self-regulation, and self-motivation. Self-awareness, (as well as the other two competencies of intrapersonal competence) is said to enhance individual knowledge, trust and personal power, all characteristics of fundamental leadership imperatives (Day, 2001; Zand, 1997).

Predictors of Self-Other Agreement

Though Yammarino and Atwater (1997) outlined the organizational and individual outcomes associated with self-awareness, they did not identify the predictors of it. Data analyses by Ostroff, Atwater, and Feinberg (2004) on 4,493 U.S. managers across 654 organizations, who participated in leadership development programs between 1991-2000, suggests that gender, race, and age influence SOA. More specifically, women, whites, and younger managers were more self-aware, than men, non-whites, and older managers (Ostroff et al., 2004). A more comprehensive meta-analysis on the predictors of SOA by Fleenor, Smither, Atwater, Braddy and Sturm (2010) corroborates Ostroff et al.'s (2004) findings, and even goes on to suggest that individual, organizational, and external factors contribute to SOA. For the purposes of this research, I focus on leaders' personal characteristics. In particular, Fleenor et al. (2010) identified the Big Five personality traits and cognitive ability, along with empathy, self-esteem, and other individual characteristics as predictors of SOA. According to their meta-analysis, research has shown that neuroticism and agreeableness are negatively related to self-estimates of intelligence, but unrelated to measured intelligence, suggesting that neurotic and agreeable people tended to give themselves lower ratings, irrespective of objective scores on tests of intelligence. Additionally, extraversion,

conscientiousness, and openness to experience were positively correlated with self-estimates of intelligence in a student sample. Since the students in this sample were asked to rate themselves in comparison to other university students and not the general public, these findings suggest that these above-average ratings were over-estimates. These findings were corroborated in another sample where extraversion correlated positively with self-ratings of assessment center performance, but not with assessor ratings of performance. In addition, those low in cognitive ability were least able to recognize their inability to perform, whereas those high in cognitive ability were more accurate in their ratings.

As previously mentioned, Day (2001) includes self-awareness as an essential contributor to leadership effectiveness. Day goes on to include two personality dimensions in his conceptualization of self-awareness: emotional intelligence (termed *emotional awareness*), and self-confidence. While Fleenor et al.'s (2010) review identifies self-confidence as a predictor of SOA, those authors noted a lack of research on Day's second proposed dimension of self-awareness: emotional intelligence. This is surprising since Fleenor et al.'s meta-analysis alludes to positive correlations between several personality traits associated with emotional intelligence and SOA, particularly public self-consciousness, efficacy, empathy, social self-confidence and locus of control (Sosik & Megerian, 1999; Salovey & Mayer, 1990). Fleenor et al. additionally reported self-monitoring, which is also associated with emotional intelligence, to be positively associated with self-awareness in a student sample. Still however, the authors make no explicit mention of emotional intelligence as a predictor of SOA in their review of the literature.

The neglect of emotional intelligence in the study of SOA may be noteworthy, since one of the few studies comparing emotional intelligence to SOA by Sosik and Megerian (1999) found that in-agreement leaders showed characteristics of emotionally intelligent individuals. In particular, Sosik and Megerian found that in-agreement leaders had higher ratings of purpose-in-life (PIL), interpersonal control, personal efficacy, and social self-confidence. This further suggests that emotional intelligence is an important characteristic that may help predict SOA. This research seeks to substantiate this claim by investigating the relationship between emotional intelligence and SOA, using a purpose-designed emotional intelligence scale, rather than its correlates as was the case in Sosik and Megerian's (1999) research.

What is Emotional Intelligence?

Salovey and Mayer first coined the term emotional intelligence in 1990. The concept was influenced by Thorndike's notion of social intelligence, which was the ability to "perceive one's own and others' internal states, motives, and behaviors and to act toward them optimally on the basis of that information" (Salovey & Mayer, p. 187, 1990). Salovey and Mayer defined emotional intelligence as a subset of social intelligence and as an "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). Salovey and Mayer's original conceptualization of emotional intelligence was comprised of three dimensions: *the appraisal and expression of emotion, the regulation of emotion, and the utilization of emotion.*

The appraisal and expression of emotion was comprised of the ability to read verbal and non-verbal cues, as well as the personality trait empathy. Regulation of emotion required the analysis of one's own mood (although the literature on emotion distinguishes mood from emotions, Salovey and Mayer used the terms interchangeably), and the utilization of emotion included the redirecting of attention upon the recognition of one's mood.

In 1997, Mayer and Salovey expanded the concept of emotional intelligence to include four dimensions: *reflectively regulating emotions*, *understanding emotions*, *assimilating emotions in thought*, and *perceiving and expressing emotion* (Mayer & Salovey, 1997). This expansion was later refined in 2010, when the authors eliminated *assimilating emotions in thought* as a dimension due to its collinearity with *understanding emotions* (Mayer, Caruso, & Salovey, 2000).

Variations of emotional intelligence continued to arise over time, particularly due to the lack of predictive ability of emotional intelligence towards life outcomes and goals (Bar-On, 1997). Unlike Salovey and Mayer, who took an ability-based approach towards emotional intelligence, later psychologists conceptualized emotional intelligence as a mixture of non-cognitive capabilities, skills, abilities, and competencies (Joseph & Newman, 2010; Mayer et al., 2000). In his mixed model of emotional intelligence (mixed EI), Bar-On (1997) incorporated mental abilities such as emotional self-awareness, with personality traits such as trait empathy and trait happiness. Bar-On still however kept components of Salovey and Mayer's original ability model (ability EI), such as emotion regulation, and emotion expression, in his mixed model. While this increased the predictive validity of the construct,

it moved emotional intelligence away from its original conceptualization, leading people to become unclear on exactly what emotional intelligence was. Goleman (1995) exacerbated this deviation with his five-factor model. Although he popularized the concept within corporate America, Goleman's conceptualization of emotional intelligence seemed to capture character instead, an entirely different concept (Goleman, 1995). Goleman also made extraordinary claims for the predictive validity of emotional intelligence towards life goals. In particular, he claimed that emotional intelligence had 0.45 correlations with success at many life tasks (Goleman, 1995).

Goleman's bold claims provided fodder for the complaint that psychologists romanticized emotional intelligence. Despite this concern, and Goleman's seemingly unlikely claims, a meta-analysis by Joseph and Newman (2010), showed that emotional intelligence did indeed predict organizational outcomes. Moreover, emotional intelligence predicted overall job performance above and beyond its established predictors: cognitive ability, and the Big Five personality traits (Joseph & Newman, 2010). These results were consistent for both ability EI - a conceptualization of EI as a set of competencies, and mixed EI - a conceptualization of EI as a mixture of non-cognitive capabilities, skills, abilities, and competencies, suggesting that despite its various manifestations, definitions, and refinements, both forms of EI related to organizational outcomes.

Emotional Intelligence and Self-Other Agreement

Despite emotional intelligence's predictive validity for job performance, there has been a lack of research into its relationship with other predictors of organizational outcomes

such as SOA. There are various speculations for why this is the case. First, as I have stated, researchers find little credibility in emotional intelligence as a construct due to its romanticization in psychology. Secondly, psychologists historically have relied mostly on cognitive ability, and the Big Five personality traits to predict many organizational outcomes (Motowidlo, 2003). This is not surprising since cognitive ability and conscientiousness is said to predict 49% of the variability in job performance (Motowidlo, 2003). This finding may have reduced researchers' interest in seeking alternative predictors of organizational outcomes. This is unfortunate however since research that has explored alternative predictors, such as that by Joseph and Newman (2010), and O'Boyle, Humphrey, Pollack, Hawver, and Story (2011) has shown emotional intelligence to provide incremental validity above and beyond cognitive ability and the Big Five personality traits on job performance (Joseph & Newman, 2010; O'Boyle et al., 2011). The current research seeks to make similar advancements towards the prediction of SOA. Not only does the current study explore the correlation between emotional intelligence and SOA; it also investigates the incremental validity of emotional intelligence above and beyond cognitive ability, and the Big Five personality traits.

There are many logical bases for expecting emotional intelligence to predict self-awareness. According to Darwin's social evolutionary perspective, emotional competence is said to be critical for social functioning (Salovey & Mayer, 1990). Therefore leaders, who interact with peers and subordinates across the various social exchanges in organizations, must be able to accurately appraise the emotions of both themselves and their followers.

Considering the complex relationships and dynamics within an organization, leaders require a great deal of internal and external emotional processing in order to make such appraisals accurately. Experiments on facial recognition tasks indicate that individuals high in emotional intelligence are better able to perceive emotion than those low on emotional intelligence (Mayer, DiPaolo, & Salovey, 1990; Picard, Vyzas, & Healey, 2001). Emotionally intelligent leaders thus should have a greater awareness of their emotions as well as others'.

Emotionally intelligent leaders should also be more aware of how others feel, because they are more empathic (Salovey & Mayer, 1990; Sosik & Megerian, 1999). According to Salovey and Mayer (1990, pp. 194 – 195), empathic individuals “understand another’s point of view, identify accurately another’s emotions, experience the same or other appropriate emotion in response to them, and [communicates] and/or [acts] on them internally.” Therefore, emotionally intelligent leaders who are more empathic should understand others’ points of views, internalize them, and appropriately respond to them. This should lead to a greater understanding between leaders and their followers.

Furthermore, because emotionally intelligent individuals are better at regulating their emotions to respond appropriately to their environment, they are better impression managers (Salovey & Mayer, 1990). Individuals that are more effective at impression management have a strong awareness of how they are viewed by others (Salovey & Mayer, 1990). Thus, we should expect emotionally intelligent leaders, who are better at impression management to be more aware of others’ perceptions of them.

Additionally, emotionally intelligent individuals are able to regulate their emotions by redirecting negative emotions. This redirection of negative emotions maintains clarity and objectivity in a situation. Thus, emotionally intelligent leaders are less likely to allow emotion to obstruct their view of themselves and others (Salovey & Mayer, 1990).

The aforementioned logic argues that emotionally intelligent leaders should be more self-aware due to their abilities to perceive accurately the emotions of themselves and others, to be more empathic, and to redirect negative emotion in order to gain clarity. Empirical evidence supports this notion. Sosik and Megerian's (1999) research confirms that in-agreement leaders are more empathic, and have greater interpersonal control than out-of-agreement leaders. Furthermore, Fleenor et. al.'s (2010) finding confirms that in-agreement leaders have greater locus of control, and are lower self-monitors, suggesting that negative emotion affects them less. Thus, with the preceding logical bases, and the support from previous research substantiating such reasoning, I propose the following hypotheses.

Hypothesis 1: Emotional Intelligence is positively correlated with SOA in multisource performance assessments.

Hypothesis 2: Emotional Intelligence will show incremental validity above and beyond cognitive ability in predicting self-other agreement in multisource performance assessments.

Hypothesis 3: Emotional Intelligence will show incremental validity above and beyond (a) neuroticism, (b) conscientiousness, (c) openness to experience, (d) extraversion, and (e) agreeableness in multisource performance assessments.

Hypothesis 4: Emotional Intelligence will show incremental validity above and beyond cognitive ability and the Big Five personality traits in multisource performance assessment.

Method

Participants

The subjects of this study were leaders in organizations within the United States. Leaders were defined as any employee of an organization with at least one direct reporting subordinate. I recruited subjects using two different methods: a university subject pool, and direct organizational contact. In the former method, I recruited employed students from the university subject pool of a university in the southeastern United States to participate in exchange for credit toward a course requirement. In the second method, I contacted managers and subordinates from organizations directly through email. Participants contacted via direct organizational contact (non-students) were entered into a lottery for a chance to win a gift card for Amazon.com. In both methods, leaders who participated provided contact information for their subordinates, who were then contacted by the researcher and invited to participate. Similarly, subordinates who participated provided contact information for their supervisors, who were invited to participate by the researcher. A total of 1495 employees (1060 managers and 435 subordinates) were invited to participate in the study with 409 returning completed surveys (193 managers and 216 subordinates) for a response rate of 27.4%. Leaders were required to have at least one subordinate rater participate in order to be eligible for the study. Of the 409 completed surveys, 100 eligible manager-subordinate pairs were obtained (both the managers and at least one of their subordinates completed the

survey). Some managers had more than one subordinate, resulting in a total sample size of 244 participants. Fifty-two percent of the managers from the eligible manager-subordinate pairs were female, and 73% of the managers were White.

Procedure

Leaders completed a four-part, 30-40-minute online questionnaire, concerning their leadership performance, cognitive ability, personality, and emotional intelligence.

Subordinates provided ratings of their leaders on the same commercially available 360-degree performance assessment instrument completed by leaders. All participants were assured their responses would be kept confidential.

Measures

Self-other agreement. SOA was measured using Kaplan and Kaiser's (2006) Leadership Versatility Index® (LVI). The LVI is an easily interpretable measure of performance that is built for multisource ratings and takes approximately 10 - 20 minutes to complete. The LVI contains 48 items measuring leader versatility on two pairs of opposing but complimentary approaches to leadership: Forceful vs. Enabling leadership, and Strategic vs. Operational leadership. Each of these four main scales has three subscales within it, totaling 12 scales of four items each, but only the four primary scales identified above were used in the current study. For each item, raters were asked to rate leaders' performance on a scale of - 4 (Much too little) to 4 (Much too much), where 0 indicates that a behavior is done the right amount. In the current study, ratings were converted to a five-point scale (0 - 4) to capture the absolute deviation from 0 (irrespective of whether negative or positive). Ratings

were averaged across the 12 items on each dimension, producing four performance scores (one for each dimension) for leaders and subordinates respectively. All four LVI scales showed good internal consistency (Forceful Leadership $\alpha = .89$, Enabling Leadership $\alpha = .92$, Strategic Leadership $\alpha = .93$, and Operational Leadership $\alpha = .89$).

The absolute value of the difference between leaders' performance ratings and subordinates' performance ratings for each dimension was used as the SOA measure for each of the four LVI dimensions (for leaders with multiple subordinate raters, the mean subordinate rating was used). Larger difference scores suggested that leaders either underestimated or over-estimated their performance to greater extents. Difference scores of zero suggested that leaders were in-agreement with their subordinates on their performance.

Cognitive ability. Cognitive ability was assessed by combining several cognitive ability indicators into a single composite cognitive ability score. As one indicator, leaders were asked to self-report their SAT scores. Research by Coyle and Pillow (2008) showed that SAT scores load highly on general intelligence (standardized coefficient = .784), indicating that SAT scores are valid measures of cognitive ability. The majority of participants' SAT scores were on a 1600-point scale. Scores that were reported on a 2400-point scale were converted to a 1600-point scale by dividing the reported SAT score by 1.5. Since individuals may not be able to accurately provide their SAT scores for a variety of reasons (e.g. did not take SAT, cannot remember), leaders were also asked to report their college GPA, and their IQ score if it was known. A study by Coyle (2015) investigating proxies of general intelligence found college GPA to correlate moderately with SAT scores (.41) and general

intelligence (.26), suggesting college GPA to be an acceptable replacement for SAT scores as an indicator of cognitive ability. Additionally, participants were asked to provide their high School GPA (HSGPA). Longitudinal data on 1165 college graduates showed a .531 correlation between high school GPA and cumulative college GPA (Schmitt, et al., 2009), suggesting that HSGPA can be used as an indicator of cognitive ability. HSGPA was assumed to be on a four-point scale unless the reported HSGPA exceeded 4.0. A reported HSGPA greater than 4.0 with no reported grading scale, was coded as missing ($n = 5$). HSGPA reported on a 100-point scale was converted to a 4.0 scale by dividing the reported HGPA by 25 ($n = 1$). Self-reported intelligence estimates provided quick, and non-strenuous measures of cognitive ability.

The composite cognitive ability score was created by first converting each cognitive ability indicator to a z-score, standardized within indicator type, and then obtaining the mean of the z-scores across the cognitive ability indicators provided by a given participant (potentially SAT scores, college GPA, HSGPA, and IQ). The data available for each cognitive ability indicator varied considerably. The most frequently reported cognitive ability indicator was college GPA ($n = 79$) followed by HSGPA ($n = 46$), SAT scores ($n = 41$), then IQ ($n = 13$). No participant provided data on all four indicators. Thus, the composite cognitive ability score does not necessarily incorporate participants' standings on every indicator.

Personality. Personality was measured using John, Donahue, and Kentle's (1991) Big Five Inventory. The Big Five Inventory (BFI) is a 44-item self-report inventory

measuring openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Participants were asked to rate how much they agreed or disagreed with a list of statements on a five-point Likert-type scale. The BFI showed good internal consistency (openness to experience $\alpha = .78$, conscientiousness $\alpha = .84$, extraversion $\alpha = .89$, agreeableness $\alpha = .80$, and neuroticism $\alpha = .82$), has shown convergent validity with Goldberg's (1992) Trait Descriptive Adjective questionnaire ($r = .81$), and has shown a clear five-factor structure (John & Srivastava, 1999; Zheng et al., 2008). The BFI takes approximately 10-15 minutes to complete. The BFI provides both a valid and short measure of personality, as opposed to other valid but relatively lengthy measures such as the 472-item California Psychological Inventory (CPI; Gough, 1987), which requires 50-60 minutes for completion.

Emotional intelligence. Emotional intelligence was measured using Wong and Law's (2002) *Wong and Law EI Scale*. The Wong and Law EI Scale (WLEIS) is a 16-item scale composed of four dimensions: self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE). The four dimensions allowed me to measure whether emotionally intelligent leaders were better able to accurately perceive the emotions of themselves and others (SEA, OEA), to be more empathic (OEA), and to redirect negative emotion to gain clarity (UOE, ROE). The WLEIS is best categorized as a Trait-EI scale, and thus does not correlate strongly with cognitive ability (Pérez, Petrides, & Furnham, 2005). However, like other trait EI scales (e.g. EQ-I [Bar-On, 1997], and TEAQue [Petrides & Furnham, 2009]) the WLEIS does have moderate correlations with

Big Five personality traits, primarily because EI overlaps conceptually with the Big Five personality traits. Nonetheless, the WLEIS has shown good discriminant validity with the Big Five personality traits, and has shown incremental validity above and beyond the Big Five personality traits in predicting life satisfaction, suggesting that it is distinct from the Big Five personality traits (Law, Wong, & Song, 2004; Wong & Law, 2002).

Two of the four scales of the WLEIS (SEA and OEA) showed support for the factor structure as intended by its authors and high internal consistency (SEA $\alpha = .94$, and OEA $\alpha = .92$). One item on the ROE scale loaded poorly, and was dropped, resulting in a three-item scale for the ROE measure with good reliability ($\alpha = .92$). A model with four items for the UOE scale showed poor fit, therefore two of the four items were dropped, resulting in a two-item scale for the UOE dimension with considerably lower reliability compared to the other dimensions ($\alpha = .53$). The confirmatory factor analyses of the WLEIS are described in more detail below. The final WLEIS scale consisted of 13 items. Participants were asked to rate how much they agree or disagree with a statement on a 7-point scale of “Strongly Disagree” (1) to “Strongly Agree” (7) and took approximately 10 minutes to complete.

Results

Table 1 provides the means, standard deviations, coefficient alphas (except for the single item cognitive ability indicators), and intercorrelations for the predictor and dependent variables of the sample.

Table 1

Means, Standard Deviations, and Correlations of Independent and Dependent Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
FL SOA	.68	.63	(.03) ^a											
EL SOA	.67	.68	.77**	(.23) ^a										
SL SOA	.74	.77	.66**	.71**	(.13) ^a									
OL SOA	.62	.65	.72**	.76**	.72**	(.07) ^a								
CA	.10	.80	-.06	-.09	-.11	-.10	- ^b							
CGPA	3.40	.40	-.23*	-.26*	-.26*	-.22	.72**	- ^c						
Neuro	2.46	.60	.00	-.01	.03	.08	-.14	-.10	(.82)					
Consc	3.94	.54	.04	.06	-.01	-.05	.16	.11	-.42**	(.84)				
Openness	3.68	.50	-.02	.12	.13	.03	.29**	.13	-.26**	.12	(.78)			
Extra	3.29	.71	.01	.02	-.11	.05	.03	.08	-.26**	.16	.16	(.89)		
Agreeable	3.88	.49	-.04	-.03	-.16	-.03	.08	.09	-.31**	.19	.05	.19	(.80)	
EI	5.61	.63	-.02	.06	-.12	-.02	.07	.07	-.45**	.49**	.26**	.33**	.60**	(.86)

Note: FL SOA = SOA for Forceful Leadership dimension of LVI; EL SOA = SOA for Enabling Leadership dimension of LVI; SL SOA = SOA for Strategic Leadership dimension of LVI; OL SOA = SOA for Operational Leadership dimension of LVI; CA = composite Cognitive Ability score; CGPA = College GPA; Neuro = Neuroticism; Consc = Conscientiousness; Openness = Openness to Experience; Extra = Extraversion; Agreeable = Agreeableness; EI = Emotional Intelligence; a = ICC value b = Cognitive Ability was measured by a one item composite measure, therefore, measures of reliability could not be computed; c = College GPA was measured by a one item measure, therefore, measures of reliability could not be computed; * $p < .05$. ** $p < .05$

The analyses that follow relied on correlations and regression modeling. Hypotheses 3a-3e share identical processes, since these hypotheses explored the incremental validity of emotional intelligence above and beyond cognitive ability and each factor of the Big Five personality traits individually.

Confirmatory Factor Analyses

To establish that the study's measures had functioned as intended by their authors, I ran a series of confirmatory factor analyses (CFA) using SPSS AMOS Version 24. Researchers caution against relying solely on χ^2 significance tests to determine model fit, since these tests are sensitive to sample size (Bentler & Bonett, 1980; Kenny & McCoach, 2003). Adhering to this caution, I used the following additional goodness of fit indicators and their corresponding suggested cutoff scores to determine the adequacy of each model: (a) CFI \geq .93 (Byrne, 1994), (b) TLI \geq .90 (based on Bentler and Bonett's [1980] suggestion that TLI values $<$.90 suggest poor fit), RMSEA \leq .10 (MacCallum, Browne, & Sugawara, 1996), and $\chi^2/df \leq$ 3.0 (Kline, 1998). Models that met the aforementioned criteria were deemed acceptable. Because previous research has established the measurement equivalence of leadership ratings collected from different sources (Faction & Craig, 2001), leader and subordinate data were combined for the CFA of the LVI ($n = 244$).

First, I ran a CFA on the LVI, testing a model with four correlated factors, consistent with the publisher's intention, with three four-item parcels as indicators for each factor. Parcels, instead of item-level indicators, were used to model the LVI because of their conceptual and psychometric advantage in modeling data with small

sample sizes. Conceptually, parcels provide a more parsimonious model.

Psychometrically, parcels are advantageous over item indicators in that they reduce the chances of correlated errors (Little, Cunningham, Shahar, & Widaman, 2002) and sampling error (MacCallum, Widaman, Zhang, & Hong, 1999). Each parcel represented one of the three *a priori* facets underlying each dimension (Kaplan & Kaiser, 2006). According to the goodness of fit indices, this model did not demonstrate adequate fit, $\chi^2(48) = 146.820, p < .001, CFI = .951, TLI = .920 = RMSEA = .092, \chi^2/df = 3.05$, as the χ^2/df value exceeded Kline's (1998) suggested cutoff for acceptable fit.

Next, I tested a second model of the LVI using domain representative parcels instead of the *a priori* facet-based parcels in the first model. Like facet-based parcels, domain representative parcels ensure internal consistency by capturing common variance between similar items, but unlike facet-based parcels this approach captures the unique variance of multiple dimensions within a single parcel, by joining items from different facets into item sets (Little et al., 2002). To create the parcels, I randomly assigned one item from each of the *a priori* dimensions' (Forceful Leadership, Enabling Leadership, Strategic Leadership, Operational Leadership) lower-order facets into a parcel. For example, the Forceful Leadership dimension of the LVI has three facets: *Takes Charge*, *Declares*, and *Pushes*. Parcel A of the Forceful Leadership dimension consisted of item 1 of the Takes Charge facet, item 1 of the Declares facet, and item 1 of the Pushes facet. Parcel B for the same dimension consisted of item 2 of the Takes Charge facet, item 2 of the Declares facet, and item 2 of the

Pushes facet. Assignment continued in this fashion until all 12 items on the Forceful Leadership dimension were assigned to parcels. This process was repeated for each respective LVI dimension, resulting in four three-item parcels for each factor. A CFA showed this model to have acceptable fit $\chi^2(100) = 267.937, p < .001$, CFI = .956, TLI = .941, RMSEA = .083, $\chi^2/df = 2.68$.

Next, I ran a CFA on the BFI personality measure. I tested a model with five correlated factors, with three parcels as indicators for each factor. Parcels were used to model the BFI on the same grounds that parcels were used to model the LVI (large number of lower-item indicators, parcels provide more parsimony, etc.). Since the authors did not explicitly specify within-factor facets for each personality dimension, I did not use domain sampling to create parcels, but instead used random assignment. I randomly assigned items within each personality factor (i.e. extraversion) to one of three parcels, until all items were assigned. This resulted in three three-item parcels for Agreeableness and Conscientiousness, since each of these scales were originally comprised of nine items. Extraversion, Neuroticism, and Openness all were originally comprised of an even number of items and therefore could not have three items evenly distributed across three parcels. Therefore, Extraversion and Neuroticism each had two parcels comprised of three items, and one parcel comprised of two items as indicators. Openness to Experience, which was originally comprised of 10-items, had two parcels comprised of three items, and one parcel comprised of four items as indicators. This model showed acceptable fit $\chi^2(80) = 103.171, p = .042$, CFI = .966, TLI = .956, RMSEA = .054, $\chi^2/df = 1.29$.

Finally, I ran a CFA on the WLEIS. I tested a model with four correlated factors, with the *a priori* four-item indicators for each factor. Reducing from a model with four item-level indicators for each dimension to a model with two parcels as indicators for each dimension would have increased the likelihood of producing a Heywood case (a communality for a variable that is equal to or greater than 1) as a result of having two few latent indicators (Bollen & Davis, 2009; Rigdon, 1995). Therefore, parcels were not used for the WLEIS scale. The model with four correlated factors, with four item-level indicators for each factor did not show adequate fit, $\chi^2(98) = 199.778, p = .042, CFI = .917, TLI = .898, RMSEA = .102, \chi^2/df = 2.04$, as the TLI value fell below .90 (Bentler & Bonett, 1980), and the RMSEA exceeded MacCallum et al.'s (1996) acceptable range. An examination of the factor loadings revealed that one of the items on the UOE dimension loaded poorly (.468; all other items on the WLESI had a factor loading of .678 or higher). Therefore, I re-ran the original model with this item removed, and obtained better fit indices, $\chi^2(84) = 164.523, p > .001, CFI = .932, TLI = .915, RMSEA = .098, \chi^2/df = 1.96$. However, a closer examination of the parameter estimates revealed an item loading greater than one (Heywood case) for one of the UOE items, rendering this model unacceptable. This item was subsequently dropped and I tested a third model with two of the UOE items removed. The third model showed better fit, $\chi^2(71) = 146.291, p > .001, CFI = .930, TLI = .910, RMSEA = .103, \chi^2/df = 2.06$, but the RMSEA was still below acceptable fit. An examination of the factor loadings revealed that one of the items loaded relatively poorly (.559) on the UOE dimension. Dropping this item would result in a single item indicator for UOE, likely resulting in a measure with poor

reliability. Alternatively, the item with the next poorest fit loaded relatively poorly on the ROE dimension. Dropping this item increased model fit, while still maintaining multiple indicators for the UOE dimension, therefore this item was dropped. The resulting model showed acceptable fit $\chi^2 (59) = 109.881, p > .001, CFI = .949, TLI = .933, RMSEA = .093, \chi^2/df = 1.862$. All analyses of the WLEIS were based on the four-factor model, with four items on each of the SEA and OEA dimensions, three items on the ROE dimension, and two items for the UOE dimension.

Hypothesis Tests

Hypothesis 1. Hypothesis 1, which predicted SOA would be positively correlated with emotional intelligence, was tested by examining the correlation between the SOA scores for each LVI dimension and managers' emotional intelligence scores. Analyses showed that emotional intelligence was not significantly correlated with any of the SOA scores (Table 1). Thus Hypothesis 1 was not supported.

Hypothesis 2. Hypothesis 2, which predicted that emotional intelligence would predict SOA above and beyond cognitive ability, was tested via hierarchical regression. First, each of the four SOA scores was regressed separately on the cognitive ability composite scores. These regression analyses showed that cognitive ability was not a significant predictor of SOA on any of the four LVI dimensions ($p > .05$ for each dimension). Next, emotional intelligence was added to each of the preceding baseline models, by regressing each of the four SOA scores separately on both emotional intelligence and cognitive ability, and each model was tested for any significant change in variance accounted for, relative to

the respective baseline models. These regression analyses showed that emotional intelligence did not provide incremental validity above and beyond cognitive ability for SOA on any of the four LVI dimensions ($p > .05$ for each dimension; see Table 2).

Since a large percentage of participants were missing HSGPA, SAT, and IQ scores, the composite scores for each candidate may have potentially included different factors, which may reduce the reliability of the composite cognitive ability measure. To explore this possibility, I tested a second model using only the single most frequently reported cognitive ability indicator, college GPA, as the sole indicator of cognitive ability. According to Coyle (2015), college GPA is a valid predictor of cognitive ability. This alternative model with college GPA as the single proxy for cognitive ability yielded college GPA as a significant predictor of SOA for Forceful Leadership SOA, $F(1, 77) = 4.119, p = .046, R^2 = .05$, Enabling Leadership SOA, $F(1, 77) = 5.466, p = .022, R^2 = .07$, and Strategic Leadership SOA, $F(1, 77) = 5.449, p = .022, R^2 = .07$. Next, emotional intelligence was added to each of the preceding baseline models, by regressing each of the four SOA scores separately on both emotional intelligence and college GPA, and each model was tested for any significant change in variance accounted for, relative to the respective baseline models. These regression analyses showed that emotional intelligence did not provide incremental validity above and beyond college GPA for SOA on any of the four LVI dimensions ($p > .05$ for each dimension; see Table 2). Thus, Hypothesis 2 was not supported.

Hypotheses 3a-3e. Hypotheses 3a – 3e, which predicted that emotional intelligence would predict SOA above and beyond each of the Big Five personality traits respectively,

Table 2
Hierarchical Multiple Regression Analyses Predicting SOA From Cognitive Ability, and Emotional Intelligence

Predictor	SOA Measure																
	Forceful Leadership				Enabling Leadership				Strategic Leadership				Operational Leadership				
	ΔR^2	β	Total R^2	n	ΔR^2	β	Total R^2	n	ΔR^2	β	Total R^2	n	ΔR^2	β	Total R^2	n	
a. Step 1			.004	83			.009	83			.012	83			.94	.010	83
Cognitive Ability		-.06				-.09				-.11				-.10			
a. Step 2	.004		.008	83	.009		.018	83	.010		.022	83	.000		.010	83	
Cognitive Ability		-.06				-.10				-.10				-.10			
Emotional Intelligence		-.02				.10				-.10				.02			
b. Step 1			.051	79			.066	79			.066	79			.048	79	
College GPA		-.23				-.25				-.26				-.22			
b. Step 2	.001		.051	79	.011		.077	79	.005		.071	79	.000		.048	79	
College GPA		-.23				-.27				-.25				-.22			
Emotional Intelligence		-.02				.11				-.07				.01			

Note: a = Model testing Hypothesis 2 using the composite Cognitive Ability score as the indicator for Cognitive Ability; b = Model testing Hypothesis 2 using College GPA as the indicator for Cognitive Ability; Consc = Conscientiousness; Openness = Openness to Experience; Agree = Agreeableness; ΔR^2 was rounded to the nearest hundredth of a decimal; Total R^2 was rounded to the nearest hundredth of a decimal; Bold Numbers are significant $p < .05$

was tested via hierarchical regression. First, each of the four SOA scores was regressed separately on the personality trait of interest (i.e. each of the four SOA scores were regressed on neuroticism alone, each of the four SOA scores were regressed on conscientiousness alone, etc.). These regression analyses showed that none of the Big Five personality traits were significant predictors of SOA on any of the four LVI dimensions ($p > .05$ for each of the Big Five personality traits for each LVI dimension). Next, emotional intelligence was added to each of the preceding baseline models, by regressing each of the four SOA scores separately on both emotional intelligence and each of the respective Big Five personality traits, and each model was tested for any significant change in variance accounted for, relative to the respective baseline models. These regression analyses showed that emotional intelligence did not provide incremental validity above and beyond any of the Big Five personality traits for SOA on any of the four LVI dimensions ($p > .05$ for each of the Big Five personality traits for each LVI dimension; see Table 3). Thus, Hypotheses 3a-3e were not supported.

Hypothesis 4. Hypothesis 4, which predicted that emotional intelligence would predict SOA above and beyond cognitive ability and the Big Five traits, was extremely unlikely to be supported, given the results of the preceding hypothesis tests. However, for the sake of comprehensiveness, Hypothesis 4 was also tested via hierarchical regression. Since college GPA was previously found to predict SOA for three of the four LVI dimensions, Hypothesis 4 was tested using both the composite cognitive ability score, and also college GPA only, as indicators of cognitive ability. First, each of the four SOA scores was regressed

Table 3
Hierarchical Multiple Regression Analyses Predicting SOA From the Big Five Personality Measures, and Emotional Intelligence

Predictor	SOA Measure															
	Forceful Leadership				Enabling Leadership				Strategic Leadership				Operational Leadership			
	ΔR^2	β	Total R^2	n	ΔR^2	β	Total R^2	n	ΔR^2	β	Total R^2	n	ΔR^2	β	Total R^2	n
a. Step 1			.007	100			.000	100			.001	100			.007	100
Neuroticism		.08				-.01				.03				.08		
a. Step 2	.001		.007	100	.004		.004	100	.013		.014	100	.001		.007	100
Neuroticism		.10				.02				-.03				.10		
Emotional Intelligence		.03				.01				-.13				.03		
b. Step 1			.002	100			.004	100			.000	100			.002	100
Consc		.04				.06				-.01				-.05		
b. Step 2	.003		.005	100	.001		.005	100	.017		.017	100	.000		.003	100
Consc		.07				.04				.06				-.05		
Emotional Intelligence		-.06				.04				-.15				.01		
c. Step 1			.000	100			.015	100			.016	100			.001	100
Openness		-.02				.12				.13				.03		
c. Step 2	.001		.001	100	.001		.016	100	.040		.024	100	.001		.002	100
Openness		-.01				.12				.17				.04		
Emotional Intelligence		-.02				.03				-.16				-.03		
d. Step 1			.000	100			.000	100			.013	100			.002	100
Extraversion		.01				.02				-.11				.05		
d. Step 2	.001		.001	100	.003		.003	100	.007		.020	100	.001		.003	100
Extraversion		.02				.00				-.09				.06		
Emotional Intelligence		-.03				.06				-.09				-.04		
e. Step 1			.002	100			.001	100			.027	100			.001	100
Agreeable		-.04				-.03				-.16				-.03		
e. Step 2	.000		.002	100	.009		.010	100	.001		.027	100	.000		.001	100
Agreeable		-.04				-.11				-.15				-.03		
Emotional Intelligence		.00				.12				-.03				-.00		

Note: a = Model testing Hypothesis 3a; b = Model testing Hypothesis 3b; c = Model testing Hypothesis 3c; d = Model testing Hypothesis 3d; e = Model testing Hypothesis 3e; Consc = Conscientiousness; Openness = Openness to Experience; Agree = Agreeableness; ΔR^2 was rounded to the nearest hundredth of a decimal; Total R^2 was rounded to the nearest hundredth of a decimal; Bold Numbers are significant $p < .05$

separately on both the cognitive ability composite scores and the Big Five traits. These regression analyses showed that the cognitive ability composite and the Big Five traits were not significant predictors of SOA on any of the four LVI dimensions ($p > .05$ for each dimension). Next, emotional intelligence was added to each of the preceding baseline models, by regressing each of the four SOA scores separately on both the composite cognitive ability scores and the Big Five traits, and each model was tested for any significant change in variance accounted for, relative to the respective baseline models. These regression analyses showed that emotional intelligence did not provide incremental validity above and beyond the composite cognitive ability scores and the Big Five personality traits for SOA on any of the four LVI dimensions ($p > .05$ for each dimension; see Table 4).

I subsequently tested Hypothesis 4 using college GPA only, instead of the composite cognitive ability score, as the indicator of cognitive ability. First, each of the four SOA scores was regressed separately on both college GPA and the Big Five personality traits. These regression analyses showed that the college GPA and the Big Five traits were not significant predictors of SOA on any of the four LVI dimensions ($p > .05$ for each dimension). Next, emotional intelligence was added to each of the preceding baseline models, by regressing each of the four SOA scores separately on both college GPA and the Big Five personality traits, and each model was tested for any significant change in variance accounted for, relative to the respective baseline models. These regression analyses showed that emotional intelligence did not provide incremental validity above and beyond college GPA and the Big

Table 4
 Hierarchical Multiple Regression Analyses Predicting SOA From Cognitive Ability, the Big Five Personality Measures, and Emotional Intelligence

Predictor	SOA Measure															
	Forceful Leadership				Enabling Leadership				Strategic Leadership				Operational Leadership			
	ΔR^2	β	Total R ²	n	ΔR^2	β	Total R ²	n	ΔR^2	β	Total R ²	n	ΔR^2	β	Total R ²	n
a. Step 1			.014	83			.051	83			.052	83			.017	83
Cognitive Ability		-.08				-.15				-.14				-.11		
Neuroticism		-.06				-.06				.03				.08		
Consc		.04				.13				.03				-.02		
Openness		.03				.13				.14				.05		
Extraversion		-.04				-.04				-.14				.03		
Agreeable		-.08				-.07				-.07				.03		
a. Step 2	.000		.014	83	.002		.054	83	.005		.056	83	.017		.017	83
Cognitive Ability		-.08				-.15				-.15				-.10		
Neuroticism		-.06				-.05				.03				.08		
Consc		.03				.11				.06				-.03		
Openness		.03				.11				.16				.05		
Extraversion		-.04				-.06				-.13				.03		
Agreeable		-.08				-.11				-.02				.02		
Emotional Intelligence		.00				.08				-.11				.03		
b. Step 1			.065	79			.115	79			.102	79			.058	79
College GPA		-.23				-.29				-.26				-.22		
Neuroticism		-.05				-.05				.01				.09		
Consc		.04				.12				.03				-.02		
Openness		.08				.16				.14				.07		
Extraversion		-.05				-.05				-.14				.04		
Agreeable		-.10				-.09				-.09				.03		
b. Step 2	.003		.068	79	.000		.115	79	.009		.111	79	.000		.058	79
College GPA		-.24				-.29				-.27				-.22		
Neuroticism		-.07				-.05				-.02				.10		
Consc		.07				.12				.09				-.02		
Openness		.10				.16				.19				.07		
Extraversion		-.05				-.05				-.13				.04		
Agreeable		-.06				-.09				-.03				.02		
Emotional Intelligence		-.09				.00				-.16				.02		

Note: a = Model testing Hypothesis 4 using the composite Cognitive Ability score as the indicator for Cognitive Ability; b = Model testing Hypothesis 4 using College GPA as the indicator for Cognitive Ability; Consc = Conscientiousness; Openness = Openness to Experience; Agree = Agreeableness; ΔR^2 was rounded to the nearest hundredth of a decimal; Total R² was rounded to the nearest hundredth of a decimal; Bold Numbers are significant $p < .05$

Five traits for SOA on any of the four LVI dimensions ($p > .05$ for each dimension; see Table 4). Thus, Hypotheses 4 was not supported.

Discussion

Considering previous research demonstrating the incremental validity of EI above and beyond cognitive ability and the Big Five personality traits in predicting performance (Joseph & Newman, 2010; O'Boyle et al., 2011), I investigated the relationship between EI and another organizational outcome, specifically self-awareness, operationalized as self-other agreement (SOA). I examined EI's direct relation to SOA and its incremental validity above and beyond cognitive ability and the Big Five personality traits in predicting SOA.

Contrary to expectations, results showed that EI had a nonsignificant relationship with SOA. Furthermore, regression analyses revealed that college GPA, a proxy for cognitive ability, was the only variable in this study that was a significant predictor of SOA, predicting SOA on three of the four SOA measures (Forceful Leadership, Enabling Leadership, and Strategic Leadership; the relationship between college GPA and Operational Leadership SOA was marginally significant, $p = .05$). None of the Big Five personality traits predicted SOA. As one would expect from the preceding results, models testing the incremental validity of EI above and beyond the Big Five personality traits, and the Big Five personality traits combined with cognitive ability were nonsignificant. Contrary to indications from prior research (Sosik & Megerian, 1999; Day, 2001), these results contradict the proposition that self-awareness, at least when operationalized as SOA, is related to EI. Leaders that scored higher on emotional intelligence were no more in-agreement with their subordinates than

were less emotionally intelligent leaders. Rather, it was that leaders who were more academically intelligent were also more self-aware. To the extent that leaders are higher in cognitive ability, they are more likely to accurately perceive their own forceful, enabling, and strategic leadership behaviors. These results build on previous research findings regarding the role of EI in self-awareness (Sosik & Megerian, 1999; Day, 2001), and offer some insights into the underpinnings of EI as a construct.

Implications for Research and Theory

Previous research by Sosik and Megerian (1999) suggested that leaders that are self-aware score higher on certain aspects of EI. Though not explicitly stated, the association between aspects of EI (empathy, purpose in life, etc.) and SOA, implicate EI itself as a predictor of self-awareness. The findings in this research fail to support this prediction. This may be for a variety of reasons.

First, Salovey and Mayer (1990) posited empathy, a correlate of SOA (Brutus, Fleenor, and McCauley, 1999) to be an integral part of EI in their conceptualization of *ability* EI. The conceptualization of *trait* EI however has not been as clear, as evidenced by the various criticisms levied against it by a bevy of researchers (Elfenbein, 2008; Locke, 2005; Murphy, 2006). CFA analysis on the trait EI scale used in this study does provide some support for these criticisms, as the factor structure of the WLEIS scale intended by its authors was not supported by the current data. The extent to which the trait EI scale in this study measured previously suggested aspects of EI is unclear. It is clear, however, that trait EI does overlap with the Big Five personality traits, as evidenced by its correlation with the Big Five

personality traits in this study. Specifically, extraversion, agreeableness, openness to experience, and conscientiousness was found to be positively correlated with trait EI, and neuroticism was found to be negatively correlated with trait EI, corroborating similar findings in previous research (Law et al., 2004; Wong & Law, 2002).

Second, it is unclear whether the operationalization of self-awareness as SOA in this study captures how Day (2001) would operationalize self-awareness. Day (2001) suggested EI to be a component of self-awareness, but provided no definition or operationalization of self-awareness, only describing its consequences in leadership initiatives (contributing to individual knowledge, trust, and personal power). The operationalization of self-awareness as SOA in the current study, as in others (Atwater & Yammarino, 1992; Yammarino & Atwater, 1997), is based on Duval and Wicklund's (1972) landmark theory on objective self-awareness. Under Duval and Wicklund's conceptualization of self-awareness, the objective self is shaped by the comparisons one makes to some standard or source of information. Such standard or source of information can be a mirror, a videotape, or others, in the form of an audience. When discrepancies arise between one's perceptions of themselves and this new standard, self-aware individuals alter their behavior to be in line with the standard, or alter their self-concept to incorporate the new source of information. In their reflection on Duval and Wicklund's theory of objective self-awareness, Atwater & Yammarino (1992) expound on the theory by stating "one's self-awareness stems from their ability to assess others' evaluations of the self and incorporate those assessments into one's self-evaluation" (p. 142). When applied to the performance-rating context, the incorporation of others' evaluations of

the self into one's self-evaluation, should be manifested in the form of agreement between one's self and others' ratings (Church, 1997). Thus, the operationalization of self-awareness as SOA seems justified, and is consistent with the tenets of Duval and Wiklund's theory, specifically that others' evaluation of the self is incorporated into one's own self-evaluation. The extent to which SOA captures Day's conceptualization of self-awareness is unclear, however, and would be better understood had he provided a definition of self-awareness, in addition to the consequences Day lists. This highlights the need for greater clarity across studies of self-awareness in terms of how self-awareness is conceptualized and how it is measured within individual studies.

Implications for Practice

The results of this study offer several implications for organizations seeking to enhance their managerial workforce. These implications can be illustrated by first reminding readers of the value that self-aware managers bring to organizations. Managers that are self-aware are valuable to organizations because they are better able to identify discrepancies in performance standards than others are who are less self-aware (Duval & Wicklund, 1972), and are thereby better equipped to resolve workplace problems. Self-aware managers are also thought to be less rigid, and therefore less likely to derail (McCartney & Campbell, 2006). Therefore, self-awareness of managers is likely to be related to organizational performance. This study highlights the extent to which EI influences managerial self-awareness. More specifically, it demonstrates that its influence is limited at most. This is important for organizations seeking to raise their managers' self-awareness through training initiatives.

Organizations taking this route should be aware that training initiatives based on raising self-awareness through EI might not be as impactful as previously assumed, as suggested by the nonsignificant relationship between the two constructs in this study. Until further evidence accumulates for a relationship between EI and self-awareness, organizations should use alternative methods for enhancing the self-awareness of managers. One such method would be to select for self-aware managers by emphasizing cognitive ability in hiring and promotion decisions for managerial positions.

Limitations and Future Directions

Although this study sheds light on the relationship between EI and self-awareness, and the nomological network of EI, it is not without its limitations. First, this study used a trait measurement of EI, partly due to its conduciveness for measurement through self-report questionnaires. Self-report questionnaires typically measure behavioral tendencies and self-perceived abilities, not actual abilities, rendering them unsatisfactory for measuring ability EI, which is better assessed with maximum-performance tests more difficult to administer in unproctored settings (Petrides & Furnham, 2001). Though similar relations with organizational outcomes have been found using both ability and trait EI scales (Joseph & Newman, 2010; O'Boyle et al., 2011), the two types of EI have been found to be conceptually distinct (Mayer et al., 2000). Thus, the current findings may be specific to trait measures of EI. Future research should examine ability EI through performance measures to see if these findings hold when EI is measured as an ability instead of a trait. It is quite possible that ability EI, which seems to have a clearer factor structure than trait EI, may be

more related to SOA, as its relation to empathy, one of the correlates of SOA (Fleenor et al., 2010), seems to be clearer than trait EI's relation to empathy.

In addition to the operationalization of EI, the method by which I computed SOA may be another factor that influenced the findings in this study. I computed SOA for each supervisor by subtracting supervisors' mean subordinate ratings from the supervisors' self-ratings. An alternative approach could have been to first compute the individual SOA scores for each supervisor-subordinate pair, and then average the SOA scores across subordinates with matching supervisors. It is possible that the latter method could have produced different SOA scores, and thereby different relationships with EI, cognitive ability, and the Big Five personality variables. Therefore, the findings should be interpreted with the consideration that other methods of calculating SOA were possible and could have influenced the results. Another potential limitation of the study is that the other-ratings of performance consisted of varying numbers of subordinates. Although I solicited more than one subordinate to provide ratings of managers' performance, most managers had ratings from only one subordinate (70%). Mean ratings of performance from multiple raters are likely to be more accurate than single ratings of performance, so the accuracy of managerial ratings of performance may have been different were there a greater number of subordinate ratings for each manager, which could in turn affect SOA. Future research can investigate SOA using a minimum of at least two subordinate ratings to form the criterion measure. This would provide greater confidence that managers' self-ratings are being compared to more accurate other-ratings of their performance.

Last, the organizational context, more specifically the situational strength of the organizations from which participants came, may have influenced the relationship between variables in this study. Situational strength is the extent to which characteristics of a situation restrict behaviors and has been found to attenuate the relationship between individual difference variables and criteria (Meyer, Dalal, & Hermida, 2010). It may be the case that the organizational control exercised by a bureaucratic organization like a public university attenuated the relationship between individual difference variables and SOA in this study. Future research can evaluate this by examining whether differential relationships between personality and SOA develop across settings with different situational strengths.

Conclusion

To summarize, in this study I investigated the direct relationship between EI and self-awareness, and the incremental validity of EI above and beyond cognitive ability and the Big Five personality traits in predicting self-awareness. The results in this study failed to support previous notions that EI influences self-awareness (Sosik & Megerian, 1999; Day, 2001), and highlight possible flaws in current conceptualizations of trait EI and operationalizations of self-awareness across the literature. Further research should clarify what EI is, how it relates to important organizational outcomes, and clarify how self-awareness should be operationalized within organizations. Although this study does not find support for the use of EI in enhancing self-awareness, as is oftentimes assumed in managerial training initiatives, it offers evidence for the use of cognitive ability in selection systems for managers. This is

promising, as it still provides organizations with means of influencing the self-awareness of their workforces.

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APPENDICES

Appendix A

Leadership Versatility Index (LVI)

Reference:

Kaplan, B., & Kaiser, R. (2006). *The versatile leader: Make the most of your strengths without overdoing it* (Vol. 309). John Wiley & Sons.

The LVI is a proprietary instrument that cannot be made publicly available. For more information on the LVI please visit: <http://kaiserleadership.com/about-the-lvi/>.

Appendix B

Cognitive Ability

Please report a value for each item. If an item does not apply to you please report "N/A".

Please provide your SAT score _____
Please provide your College GPA _____
Please provide your HS GPA _____
Please provide your IQ score _____

Appendix C

The Big Five Inventory (BFI)

Reference:

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). The big five inventory—versions 4a and 54.

Please indicate the extent to which you agree or disagree with each statement.

Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
1	2	3	4	5

I see Myself as Someone Who..

1. Is talkative
2. Tends to find fault with others
3. Does a thorough job
4. Is depressed, blue
5. Is original, comes up with new ideas
6. Is reserved
7. Is helpful and unselfish with others
8. Can be somewhat careless
9. Is relaxed, handles stress well
10. Is curious about many different things
11. Is full of energy
12. Starts quarrels with others
13. Is a reliable worker
14. Can be tense
15. Is ingenious, a deep thinker
16. Generates a lot of enthusiasm
17. Has a forgiving nature
18. Tends to be disorganized
19. Worries a lot
20. Has an active imagination
21. Tends to be quiet
22. Is generally trusting

23. Tends to be lazy
24. Is emotionally stable, not easily upset
25. Is inventive
26. Has an assertive personality
27. Can be cold and aloof
28. Perseveres until the task is finished
29. Can be moody
30. Values artistic, aesthetic experiences
31. Is sometimes shy, inhibited
32. Is considerate and kind to almost everyone
33. Does things efficiently
34. Remains calm in tense situations
35. Prefers work that is routine
36. Is outgoing, sociable
37. Is sometimes rude to others
38. Makes plans and follows through with them
39. Gets nervous easily
40. Likes to reflect, play with ideas
41. Has few artistic interests
42. Likes to cooperate with others
43. Is easily distracted
44. Is sophisticated in art, music, or literature

Appendix D

Wong and Law Emotional Intelligence Scale (WLEIS)

Reference:

Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The leadership quarterly*, 13(3), 243-274.

Please indicate the extent to which each statement describes you, using the following scale:

Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Somewhat Agree	Strongly Agree
1	2	3	4	5	6	7

Self-Emotions Appraisal (SEA)

1. I have a good sense of why I have certain feelings most of the time.
2. I have good understanding of my own emotions.
3. I really understand what I feel.
4. I always know whether or not I am happy.

Others-Emotions Appraisal (OEA)

5. I always know my friends' emotions from their behavior.
6. I am a good observer of others' emotions.
7. I am sensitive to the feelings and emotions of others.
8. I have good understanding of the emotions of people around me.

Use of Emotion (UOE)

9. I always set goals for myself and then try my best to achieve them.
10. I always tell myself I am a competent person.
11. I am a self-motivating person.
12. I would always encourage myself to try my best.

Regulation of Emotion (ROE)

13. I am able to control my temper so that I can handle difficulties rationally.
14. I am quite capable of controlling my own emotions.
15. I can always calm down quickly when I am very angry.
16. I have good control of my own emotions.

Appendix E

Original Thesis Proposal

Leader self-awareness: An investigation into the predictive and incremental validity of emotional intelligence.

Importance of Leadership to Organizations

According to Mills (2005), “leadership influences the thoughts and behaviors of others in a substantial way. It may involve charisma, important objectives, a formal position, and a particular set of behaviors, but it is not limited to any of them.” This identification distinguishes leaders from other positions of responsibility within the organization such as managers or administrators. Whereas managers and administrators are more concerned with interpreting and applying rules and regulations, and keeping records, leaders create a vision, communicate that vision, motivate followers to action, and help an organization grow and evolve (Mills, 2005). In order to accomplish this, effective leaders need to understand how they are perceived by others—to be “self aware”—in order to stifle rigidity and promote flexibility, and need to be interpersonally skilled in order to motivate followers to action.

Leaders with the aforementioned skills, who are able to move their followers to committed work, are often called transformational leaders [(Burns,1978; Bass, 1985)]. Organizations often invest a great amount of time and money in selecting and developing transformational leaders. A recent Forbes Magazine article identifies management training as the number one source of training expenses (35%) among corporations

globally, with a total of \$130 billion spent worldwide in 2014 (Bersin, 2014). This is not surprising since leaders generally have been tied to various organizational outcomes. A meta-analysis by DeGroot, Kiker, and Cross (2000) on the effects of charismatic leadership on organizational outcomes found an association between charismatic leadership and subordinate performance, particularly at the group level. Other studies examining the relationship between leadership and organizational outcomes indicate that leadership affects performance indirectly via its influence on subordinate commitment (Avolio, Zhu, Kho, and Bhatia, 2004; Babcock-Roberson & Strickland, 2010). More specifically, research by Avolio et al. (2004) found an association between transformational leadership and employee organizational commitment. After surveying 520 nurses in a Singapore hospital, Avolio et al. found that those nurses who felt more empowered by their transformational leaders were more committed to the organization. This may be due to the increased linkage between follower effort and goal accomplishment as a result of subordinate empowerment (Shamir, House, & Arthur, 1993).

Research has found that greater organizational commitment is associated with greater work engagement (Babcock-Roberson & Strickland, 2010). Affectively committed employees share similar visions with their leaders, and feel a greater connection between their work and the goals of the organization (Lock & Latham, 1990). Consistent with these claims, a study by Babcock-Roberson and Strickland (2010), in which they examined charismatic leadership, which is often associated with

transformational leadership, revealed that young employees under greater charismatic leadership displayed greater work engagement. Furthermore, regression analysis showed that work engagement mediated the relationship between charismatic leadership and organizational citizenship behavior, suggesting that leadership can have intangible effects on the organization as well.

Often leadership succession can alter an organization's performance as displayed by Guest's (1962) case study. In his case study of an automobile factory undergoing changes in executive personnel, performance dramatically increased after a change in leadership. Prior to the change in leadership, Plant Y suffered from various organizational flaws such as poor quality of output, high absenteeism and turnover, as well as failure to meet scheduling changes. After replacing the plant manager, there was a reduction in interpersonal conflict and the plant's performance increased, eventually outperforming six identical plants in the area. Leadership change can exacerbate performance as well. In Gouldner's *Patterns of Industrial Bureaucracy* (1954), a gypsum plant replaced their "casual and indulgent" leader with a rigid, and dogmatic one. The employees resisted the stringent rules of the new leader, and interpersonal conflicts ensued, leading to a decrease in overall performance. The effects of leadership on organizational performance, shown in those two studies, suggest that leaders that are inappropriate for the context of the organization can alter the direction of an organization for better or for worse.

Impact of Leadership Development

When appointing leaders to positions of power, it is important to ensure that these

individuals not only have characteristics of successful leaders but also that the organization does not impede their development. Often when newly promoted leaders make the initial transition into their new positions they are wrought with excitement, only to be overwhelmed by unexpected challenges and responsibilities, many of which could be overcome by supervisory training (Grove, 2008). In the report, *A Call to Action: Improving First-Level Supervision of Federal Employees*, the U.S. Merit Systems Protection Board (MSPB) concluded that many transitioning first-line supervisors in federal agencies are expected to execute their jobs without preparation (Marrelli, A. (Ed.), 2010). This seems to be a longstanding problem, as in 1992 the MSPB found that many first line supervisors were placed in situations without the requisite skills to perform successfully. By 1998, the MSPB concluded that the training that did exist focused primarily on “processes and procedures rather than hands-on management.” Nine years later, in a 2007 MPS, the MSPB confirmed their earlier reports that training for first-line supervisors in federal agencies was inadequate (Marrelli, A. (Ed.), 2010). When asked about the learning opportunities they received through formal or informal training, less than two thirds (64%) of first-line supervisors reported that they received training preceding or during their first year as supervisor. Of those that did receive training, nearly half received a week or less of training. Of course quantity of training is not a direct measure of the quality of training, but considering the demands of first line-supervisors, which require both management and leadership skills, it is unlikely that all the necessary skills can be learned within a week’s worth of training. In fact, research by Peterson

(1993) and Peterson and Hicks (1993) revealed that an intervention program lasting up to a year was much more effective at changing destructive leadership traits than was a three – to five- day standardized leadership training program

This trend is consistent across industries. A 2014 Harvard Business Review report surveying 610 cross-industry, senior level managers and executives from firms across the globe revealed that “in the vast majority of organizations, front line managers are not offered robust enough training programs to meet job demands” (Harvard Business Review Analytic Services, 2014, p. 4). 40% of respondents indicated that front line managers did not receive sufficient tools and training to develop into highly effective leaders. When asked to describe the management training received in their firms, respondents expressed that training was in spurts, and that on-going training was an issue. Furthermore, respondents claimed that feedback was punitive and used mainly for administrative purposes. Lastly, 79% believed that lack of front line manager development negatively impacted their firm moderately or substantially.

The ultimate sign of failure for a transitioning supervisor is derailment. Derailment occurs when managers or executives are “involuntarily plateaued, demoted or fired below [their] level of achievement” or when they reach that level “only to fail unexpectedly” (Lombardo, Ruderman, & McCauley, 1988, p. 199). McCartney and Campbell’s (2006) model of individual success and failure displays which leaders are most at risk for derailment. In their model, successful leadership requires both management and leadership skills. The higher leaders are on both dimensions, the more

successful they are likely to be. Conversely, the lower they are on both factors, the less likely they are to be selected. Importantly however, when leaders are medium performers on one dimension, and low performers on the other, they are more likely to be derailed. These candidates are in high need of training. Therefore, it is important to provide leaders who have medium or better management skills, with leadership training in order to prevent derailment. Of additional importance for organizations to note is that leadership training does not only prevent derailment, but advances performance beyond just satisfactory levels. According to McCartney and Campbell, leaders who are medium performers on both management and leadership skills, are unlikely to achieve their maximum potential if they do not receive continued development. In fact, the authors label these leaders as those in most need of development. McCartney and Campbell's model not only identifies those at most risk for derailment, but identifies those that would benefit most from development.

It is important to follow up with transitioning leaders for various reasons. Often, characteristics that are effective at lower levels of the organization become ineffective at higher levels of the organization (McCartney & Campbell, 2006). In the case of transitioning executives especially, reactive-reaction problem solving may be effective at the middle management level, but become insufficient for the proactive role of higher-level executives. Rigidity and an inability to adapt is credited with being one of the most common causes of failure for leaders (McCartney & Campbell, 2006). In order to change this, leaders must not only learn effective behaviors, but also be aware of their ineffective

behaviors so they can change them. Fortunately, leadership development interventions work to reach such goals, often by targeting the building and usage of intrapersonal and interpersonal competence (Day, 2001).

There are various leadership development techniques used in modern organizations that target intrapersonal and interpersonal competencies. These interventions include executive coaching, mentoring, networking, and the most widely applied of them all among Fortune 500 companies, multisource or “360-degree” performance appraisals (London & Smither, 1995). The effects of leadership development interventions on organizational outcomes are difficult to summarize, since their impact is rarely reported, mostly appearing in the form of unpublished dissertations (Saling, 2005; Thompson, 1986; Knodt, 1990). However, the little empirical research available is promising for those looking to invest in corporate leadership. Thompson’s (1986) study of leaders who were at risk for derailment showed that those at-risk leaders who completed leadership training performed better than those who did not complete training on 11 of 15 outcome measures. Additionally, in Knodt’s unpublished dissertation, he found that one-on-one coaching in addition to feedback significantly increased performance over feedback alone on behavioral people-management practices (1990). Smither, London, Flautt, Vargas, and Kucine (2003) corroborated these findings in a similar study of 1361 senior managers in a global financial services organization, where executive coaching enhanced supervisors’ feedback seeking practices.

Research on leader-member exchange indicates that by developing better

relationships between the leader and the follower, organizations can increase performance (Graen, Scandura, & Graen, 1986). In one study, Graen et al. (1986) found that leaders who accepted the opportunity to develop high-quality relationships with their subordinates, via leadership training, showed a dramatic increase in subordinate performance over leaders who did not accept training. Leader-Member Exchange (LMX) theory suggests that post leadership training, leaders and members form a career-oriented social exchange, where the two grow a mutual respect, trust, and feeling of obligation to one another (Graen & Uhl-Bien, 1995). Whether by developing the leader-member relationship in Graen et al.'s study (1986), or by developing interpersonal and intrapersonal competencies like was the case in Knodt's (1990) and Smither et al.'s (2003) studies, leadership development interventions have been shown to be effective at increasing the desirable characteristics of a leader. The aforementioned research supports the suggestion by Avolio and Gardner (2005) that characteristics associated with effective leadership are state-like, and can be developed and built overtime.

Importance of Multisource Ratings for Leadership Development

As previously mentioned, 360-degree performance appraisals are the most commonly used leadership development tools in organizations (London & Smither, 1995). Even "leaders of the corporate sector" such as AT&T, Exxon, GE, IBM, Caterpillar, Levi Strauss, and Shell Oil have used 360-degree appraisals (Ghorpade, 2000). Due to its application in other leadership development programs such as executive coaching, mentoring, and networking, 360-degree performance assessments are integral

to almost all modern leadership development efforts.

360-degree performance appraisals incorporate ratings from supervisors, peers, subordinates and the self. The benefit of 360-degree performance appraisals is based on the proposition that different sources capture different perspectives on leader behavior (Yamrino & Atwater, 1997). Low inter-correlations between source ratings support this assumption. This may be because different sources observe behaviors that are more pertinent to their success. For example, research suggests that subordinates pay closer attention to perceived support or autonomy from their boss, while peers focus attention on the subject's collaborative nature and how well he or she facilitates their work (Craig & Hannum, 2006).

360-degree performance assessment is popular primarily because of its usefulness as a development tool, its ease of implementation, as well as its contribution towards self-understanding (Day, 2001; Waldman, Atwater, & Antonioni 1998). Differences between subjects' self-ratings and those from other raters allow for insights into leaders' self-awareness, which due to its associations with leadership performance, make it a necessity in the business world (Day, 2001; Petrie, 2014).

Importance of SOA

Self-awareness in an organizational context has been defined as “being aware of one's strengths and weaknesses as well as understanding one's emotions and personality” (Ilies, Morgenson, & Nahgrang, 2005, p. 378). Self-awareness is often operationalized as congruence across self and other ratings (self-other-agreement), although there are other

popular and more complex operationalizations such as componential scores, which take an interpersonal approach by decomposing self-enhancement (the inflation of self-ratings) into three components: perceiver effect (how an individual tends to see others), target effect (how an individual tends to be seen by others) and the relationship effect (how a perceiver uniquely sees the target). All three components are used to compute a componential score, which can be used to attribute self-ratings to either genuine (reflective of performance) or delusional (not reflective of performance) self-esteem (Kwan, John, Kenny, Bond, & Robins, 2004; Kwan, Kuang, John, & Robins, 2008). As previously mentioned, since 360-degree performance appraisals include information from different sources, they are particularly useful for measuring one's self-awareness. By correlating one's self-other agreement (SOA) from 360-degree performance appraisals with various organizational outcomes, researchers can use SOA to better predict leader behavior.

Yammarino and Atwater (1997) categorized the self-awareness of leaders based on their discrepancy between self and subordinate ratings. First they categorized a subject as either in-agreement or not. These categories were then further subdivided. Those that were in-agreement were either in-agreement good (accurately rated themselves highly) or in-agreement poor (accurately rated themselves poorly), while those that were not in-agreement were either over-estimators (rated themselves higher than others' rated them) or under-estimators (rated themselves lower than other's rated them). According to Yammarino and Atwater (1997), in-agreement good employees were the most effective

leaders, while in-agreement poor employees, were the least effective. Additionally, over-estimators suffered from career derailment, while under-estimators, though qualified, were less likely to pursue leadership positions. These categorizations of SOA suggest that employees' self-awareness along with their level of performance, can predict those most likely to be successful in leadership positions. This is useful for leader development initiatives, whose overarching emphasis tends to be on intrapersonal competence (Day, 2001).

In leadership initiatives, where the focus is on developing a healthy attitude and identity in order to form a self-model that can be used effectively in changing roles (Day, 2001; Gardner, 1993; Hall & Seibert, 1992), developing one's self awareness is key. In fact, self-awareness was identified as a dimension of intrapersonal competence, along with self-regulation, and self-motivation. Self-awareness, (as well as the other two competencies of intrapersonal competence) is said to enhance individual knowledge, trust and personal power, all characteristics of fundamental leadership imperatives (Day, 2001; Zand 1997).

Predictors of SOA

Though Yammarino and Atwater (1997) outlined the organizational and individual outcomes associated with self-awareness, they do not identify the predictors of it. Data analyses by Ostroff, Atwater, and Feinberg (2004) on 4,493 U. S. managers across 654 organizations in leadership development programs between 1991-2000 suggests that gender, race, and age influence SOA between supervisors. More

specifically, women, whites, and younger managers were more self-aware, than men, non-whites, and older managers (Ostroff et al., 2004). A more comprehensive meta-analysis on the predictors of SOA by Fleenor, Smither, Atwater, Braddy and Sturm (2010) corroborates Ostroff et al.'s (2004) findings, and even goes on to suggest that individual, organizational, and external factors contribute to SOA. For the purposes of this research, I focus on leaders' personal characteristics. In particular, Fleenor et al. (2010) mention the Big Five personality traits and cognitive ability, along with empathy, self-esteem, and other individual characteristics as predictors of SOA. According to their meta-analysis, research has shown that neuroticism and agreeableness are negatively related to self-estimates of intelligence, but unrelated to measured intelligence, suggesting that neurotic and agreeable people tended to give themselves lower ratings, which were unfounded on objective tests of intelligence. Additionally extraversion, conscientiousness, and openness to experience were positively correlated with self-estimates of intelligence in a student sample. Since the students in this sample were asked to rate themselves in comparison to other university students and not the general public, these findings suggest that these above-average ratings are over-estimates. These findings were corroborated in another sample where extraversion correlated positively with self-ratings of assessment center performance, but not with assessor ratings of performance. In addition, those low in cognitive ability were least able to recognize their inability to perform, whereas those high in cognitive ability were more accurate in their ratings.

As previously mentioned, Day (2001) includes self-awareness as an essential contributor in leadership effectiveness. Day goes on to include two personality dimensions in his conceptualization of self-awareness: emotional intelligence (termed *emotional awareness*), and self-confidence. While Fleenor et al.'s (2010) review identifies self-confidence as a predictor of SOA, it showed a lack of research on Day's second proposed dimension of self-awareness: emotional intelligence. This is surprising since Fleenor et al.'s meta-analysis alludes to positive correlations between several personality traits associated with emotional intelligence and SOA, particularly public self-consciousness, efficacy, empathy, social self-confidence and locus of control (Sosik & Megerian, 1999; Salovey & Mayer, 1990). Fleenor et al. additionally reported self-monitoring, which is also associated with emotional intelligence, to be positively associated with self-awareness in a student sample. Still however, the authors make no explicit mention of emotional intelligence as a predictor of SOA in their review of the literature.

The neglect of emotional intelligence in the study of SOA may be noteworthy, since one of the few studies comparing emotional intelligence to SOA by Sosik and Megerian (1999) found that in-agreement leaders showed characteristics of emotionally intelligent individuals. In particular, Sosik and Megerian found that in-agreement leaders had higher ratings of PIL (purpose-in-life), interpersonal control, personal efficacy, and social self-confidence. This further suggests that emotional intelligence is an important characteristic that may help predict SOA. This research seeks to substantiate this claim by

investigating the relationship between emotional intelligence and SOA, using an explicitly designed emotional intelligence scale, rather than its correlates as was the case in Sosik and Megerian's (1999) research.

What is Emotional Intelligence?

Salovey and Mayer first coined the term emotional intelligence in 1990. The concept was developed under the theology of Thorndike's social intelligence, which was the ability to "perceive one's own and others' internal states, motives, and behaviors and to act toward them optimally on the basis of that information" (Salovey & Mayer, p. 187, 1990). Salovey and Mayer defined emotional intelligence as a subset of social intelligence and as an "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). Salovey and Mayer's original conceptualization of emotional intelligence was comprised of three dimensions: *the appraisal and expression of emotion*, *the regulation of emotion*, and *the utilization of emotion*.

The appraisal and expression of emotion was comprised of the ability to read verbal and non-verbal cues, as well as the personality trait empathy. Regulation of emotion required the meta-analyses of mood (although the literature on emotion distinguishes mood from emotions, Salovey and Mayer used the terms interchangeably), and the utilization of emotion included the redirecting of attention upon the recognition of one's mood.

In 1997, Mayer, and Salovey expanded the concept of emotional intelligence to

include four dimensions: *reflectively regulating emotions, understanding emotions, assimilating emotions in thought, and perceiving and expressing emotion* (Mayer & Salovey 1997). This expansion was later refined in 2010, when the authors eliminated *assimilating emotions in thought* as a dimension due to its colinearity with *understanding emotions* (Mayer, Caruso, & Salovey 2010).

Variations of emotional intelligence continued to arise over time, particularly due to the lack of predictive ability of emotional intelligence towards life outcomes and goals (Bar-On, 1997). Unlike Mayer and Salovey who took an ability-based approach towards emotional intelligence, later psychologists conceptualized emotional intelligence as a mixture of non-cognitive capabilities, skills, abilities, and competencies (Joseph & Newman, 2010; Mayer et al., 2000). In his mixed model of emotional intelligence (mixed EI), Bar-On (1997) incorporated mental abilities such as emotional self-awareness, with personality traits such as trait empathy and trait happiness. Bar-On still however kept components of Salovey and Mayer's original ability model (ability EI), such as emotion regulation, and emotion expression, in his mixed model. While this increased the predictive validity of the construct, it moved emotional intelligence away from its original conceptualization, leading people to become unclear on exactly what emotional intelligence was. Goleman (1995) exacerbated this deviation with his five-factor model. Although he popularized the concept within corporate America, Goleman's conceptualization of emotional intelligence seemed to capture character instead, an entirely different concept (Goleman, 1995a, p. 285). Goleman also made extraordinary

claims for the predictive validity of emotional intelligence towards life goals. In particular, he claimed that emotional intelligence had 0.45 correlations with success at many life tasks (Goleman, 1995a).

Goleman's bold claims provided fodder for the claim that psychologists romanticized emotional intelligence. Despite this concern, and Goleman's seemingly unachievable claims, a meta-analysis by Joseph and Newman (2010), showed that emotional intelligence did indeed predict organizational outcomes. Moreover, emotional intelligence predicted overall job performance above and beyond its established predictors: cognitive ability, and the Big Five personality traits (Joseph & Newman, 2010). These results were consistent for both ability EI - a conceptualization of EI as a set of competencies, and mixed EI - a conceptualization of EI as a mixture of non-cognitive capabilities, skills, abilities, and competencies, suggesting that despite its various manifestations, definitions, and refinements, both are effective at predicting organizational outcomes.

Association Between Emotional Intelligence and SOA

Despite emotional intelligence's predictive validity for job performance, there has been a lack of research into its relation with other predictors of organizational outcomes such as SOA. There are various speculations for why this is the case. First, as I have stated, researchers find little credibility in emotional intelligence as a construct due to its romanticization in psychology. Secondly psychologists historically have relied mostly on cognitive ability, and the Big Five traits to predict many organizational outcomes

(Motowidlo, 2003). This is not surprising since cognitive ability and conscientiousness is said to predict 49% of the variability in job performance (Motowidlo, 2003). This finding may have reduced researchers' interest in seeking alternative predictors of organizational outcomes. This is particularly troubling however since research that has explored alternative predictors, by Joseph and Newman (2010), and O'Boyle, Humphrey, Pollack, Hawver, and Story (2011) has shown emotional intelligence to provide incremental validity above and beyond cognitive ability and the Big Five personality traits on organizational performance (Joseph & Newman, 2010; O'Boyle et al., 2011). The current research seeks to make similar advancements towards the prediction of SOA. Not only does the current study explore the correlation between emotional intelligence and SOA, it also investigates the incremental validity of emotional intelligence above and beyond cognitive ability, and the Big Five personality traits.

There are many logical bases for why emotional intelligence should predict self-awareness. According to Darwin's social evolutionary perspective, emotional competence is said to be critical for social functioning (Salovey & Mayer, 1990). Therefore leaders, who interact with peers and subordinates across the various social exchanges in organizations, must be able to accurately appraise the emotions of both themselves and their followers. Considering the complex relationships and dynamics within an organization, leaders require a great deal of internal and external emotional processing in order to make such accurate appraisals. Experiments on facial recognition tasks indicate that individuals high in emotional intelligence are better able to perceive

emotion than those low on emotional intelligence (Mayer, DiPaolo, & Salovey, 1990; Picard, Vyzas, & Healey, 2001). Emotionally intelligent leaders thus should have a greater awareness of their emotions as well as others’.

Emotionally intelligent leaders should also be more aware of how others feel, particularly because they are more empathic (Salovey & Mayer, 1990; Sosik & Megerian, 1999). According to Salovey and Mayer (1990), empathic individuals “understand another’s point of view, identify accurately another’s emotions, experience the same or other appropriate emotion in response to them, and [communicates] and/or [acts] on them internally.” Therefore, emotionally intelligent leaders who are more empathic should understand others’ points of views, internalize them, and appropriately respond to them. This should lead to a greater understanding between leaders and their followers.

Furthermore, because emotionally intelligent individuals are better at regulating their emotions to respond appropriately to their environment, they are better impression managers (Salovey & Mayer, 1990). Individuals that are more effective at impression management have a strong awareness of how they are viewed by others (Salovey & Mayer, 1990). Thus, we should expect emotionally intelligent leaders, who are better at impression management to be more aware of others’ perceptions of them.

Additionally, emotionally intelligent individuals are able to regulate their emotions by redirecting negative emotions. This redirection of negative emotions maintains clarity and objectivity in a situation. Thus, emotionally intelligent leaders are less likely to allow emotion to obstruct their vision of themselves and others (Salovey &

Mayer, 1990).

The aforementioned logic argues that emotionally intelligent leaders should be more self-aware due to their abilities to accurately perceive the emotions of themselves and others, to be more empathic, and to redirect negative emotion in order to gain clarity. Empirical evidence supports this notion. Sosik and Megerian's (1999) research confirms that in-agreement leaders are more empathic, and have greater interpersonal control than non in-agreement leaders. Furthermore, Fleenor et. al's (2010) finding confirms that in-agreement leaders have greater locus of control, and are lower self-monitors, suggesting that they are less affected by negative emotion. Thus, with the preceding logical bases, and the support from previous research substantiating such reasoning, I propose the following hypotheses.

Hypothesis 1: Emotional Intelligence is positively correlated with SOA in multisource performance assessments.

Hypothesis 2: Emotional Intelligence will show incremental validity above and beyond cognitive ability in predicting self-other agreement in multisource performance assessments.

Hypothesis 3: Emotional Intelligence will show incremental validity above and beyond (a) neuroticism, (b) conscientiousness, (c) openness to experience, (d) extraversion, and (e) agreeableness in multisource performance assessments.

Hypothesis 4: Emotional Intelligence will show incremental validity above and beyond cognitive ability and the Big Five personality traits in multisource performance

assessment.

Method

Participants

The subjects of this study will be 100 leaders in business organizations within the United States. Leaders will be defined as any employee of an organization with at least one-direct reporting subordinate. Each of these leaders will require one subordinate rater. I will recruit subjects using three different methods: NCSU subject pool, M-Turk, and direct organizational contact. In the first two methods, subordinates will be asked to participate in a subcomponent of a larger study concerning organizational leadership, which requires responses from both leaders and their respective subordinates. Subordinates will be informed that their participation will consist of responses to a series of questions concerning their experience with their supervisor, and will serve to fulfill the “subordinate” component of the study. Subordinates will be informed that their responses will be stored in an online database, accessible only to the principal investigator of the study, and that under no circumstances will their responses be shared with their supervisors. Additionally, they will be informed that their responses are necessary only to provide researchers with a more complete and accurate assessment of their supervisors’ leadership styles. Psychology students will be given one research credit for participating in the study, while subordinates recruited through M-Turk will be compensated one dollar, as per M-Turk standards. To be eligible to participate, subordinates will be required to be employed at least 20 hours a week, and to provide the contact information

of the supervisor they are rating, in order to allow researchers to obtain the remaining information necessary to complete the “leaders” component of the study. However, it will not be mandatory that leader’s agree to participate in order for subordinates to receive compensation.

To ensure confidentiality, subordinates will not be asked to provide their names or any other identifying information (birthdays, student ID) in the questionnaire. Instead, the online form will track subordinates’ responses using a unique response ID generated. Upon submission of the survey, a link will appear which will take students requesting research credit to a separate window in the online form, where they will submit their name and student ID number. Their contact information will be recorded in this separate window in the online form, separate from their survey responses. This will allow the researcher to properly verify completion of the project, and thereafter reward students their research credit.

After retrieving leaders’ contact information from subordinates, leaders will receive an email soliciting their participation in a subcomponent of a larger study concerning organizational leadership, which requires the leaders’ perspective on their leadership style. Leaders will be informed that their responses are necessary only to provide researchers with a more complete and accurate assessment of their leadership style. Within this email they will receive a link to the survey, along with a unique ID (the response ID assigned to their subordinate), which they will then enter at the screening page in order to authenticate themselves before taking the survey. This response ID

number will be used to match leaders with the subordinates who rated them, in addition to maintaining confidentiality for both participants. In order to encourage participation, leaders that participate will have the opportunity to enter into a raffle, where for every 50 participants, there will be a chance to win a \$50 Amazon gift card.

The last method of recruitment will be via direct contact with organizations. Due to accessibility and convenience, I will solicit staff supervisors from universities and colleges within the Raleigh area, then expand to neighboring cities. I will use the organizational chart available on university/college websites, to identify potential supervisors and to obtain their e-mail addresses. Leaders will be asked to participate in a subcomponent of a larger study concerning organizational leadership, which requires the leaders' own perspective on their leadership style. Leaders will be informed that their responses are necessary only to provide researchers with a more complete and accurate assessment of their leadership style. Within this email they will receive a link to the survey. As part of the requirement to participate, leaders will be required to be employed at least 20 hours a week, and to provide the contact information of a subordinate who would be willing to provide upward ratings, in order to allow researchers to obtain the remaining information necessary to complete the "subordinate" component of the study. In order to encourage participation, leaders that participate will have the opportunity to enter into a raffle, where for every 50 participants, there will be a chance to win a \$50 Amazon gift card.

After retrieving subordinates' contact information from leaders in the third method of recruitment using direct organizational contact, subordinates will receive an email soliciting their participation in a subcomponent of a larger study concerning organizational leadership, which requires the subordinate's perspective on their supervisor. Subordinates will be informed that their responses are necessary only to provide researchers with a more complete and accurate assessment of their supervisors' leadership style. Within this email they will receive a link to the survey, along with a unique ID (the response ID assigned to their supervisor), which they will then enter at the screening page in order to authenticate themselves before taking the survey. This response ID number will be used to match subordinates with the leaders for which they will be rating, in addition to maintaining confidentiality for both participants. In order to encourage participation, subordinates recruited via direct organizational contact will have the opportunity to enter into a raffle, where for every 50 participants, there will be a chance to win a \$50 amazon gift card.

Procedure

Leaders will complete a four-part, 30-40-minute online leadership questionnaire, concerning their performance, cognitive ability, personality, and emotional intelligence. Subordinates will provide upward ratings of these leaders as part of a 360-degree performance rating. Both parties will be provided a unique link to an online survey, which will record all responses. All responses will be kept confidential.

Measures

Self-other agreement. SOA will be measured by using Kaplan and Kaiser's (2006) Leadership Versatility Index (see Appendix A). The Leadership Versatility Index (LVI) is a 48-item scale, measuring leader versatility on two pairs of opposing but complimentary approaches to leadership: Forceful vs. Enabling leadership, and Strategic vs. Operational leadership. Each of these four main scales has three subscales within it, totaling 12 scales of four items each. For each item, raters are asked to rate leaders' performance on a scale of - 4 (Much too little) to 4 (Much too much), where 0 indicates that a behavior is done the right amount. Ratings however will be converted to a five-point scale (0 - 4) to capture any deviation from 0 (whether negative or positive). Ratings will be averaged across all four items on all 12 subscales, for leaders and subordinates respectively, to obtain an overall performance measure. Subordinates' performance ratings will be subtracted from leaders' self-ratings to obtain a difference score. This difference score will represent leaders' SOA. Significantly large and negative difference scores will suggest that leaders under-estimate their performance. Difference scores of zero (non-significant difference in ratings between leaders and subordinates) will suggest that leaders are in-agreement with their subordinates on their performance. Significantly large and positive difference scores will suggest that leaders over-estimate their performance. The LVI as a measure has shown good internal consistency ($\alpha=.85$), good inter-rater reliability ($r=.90$) among subordinates, and has shown good validity in predicting leader effectiveness ($r=.68$) (Kaplan & Kaiser, 2006). The LVI is an easily

interpretable measure of performance that is built for multisource ratings and takes approximately 10-20 minutes to complete.

Cognitive ability. Cognitive ability will be assessed in four ways (see Appendix B). Leaders will be asked to self-report their SAT scores. Research by Coyle and Pillow (2008) reveal that SAT scores load highly on general intelligence (standardized coefficient = .784), indicating that SAT scores are valid measures of cognitive ability. However, I recognize individuals may not be able to provide their SAT scores for a variety of reasons (e.g. did not take SAT, cannot remember), therefore, leaders will also be asked to report their college GPA, and their IQ score if it is known. A study by Coyle (2015) investigating the proxies of general intelligence found College GPA to correlate moderately with SAT scores (.41) and general intelligence directly (.26), suggesting college GPA to be a good replacement for SAT scores as an indicator of cognitive ability. Additionally, as a proxy for College GPA, participants will be asked to provide their high School GPA (HSGPA). Longitudinal data on 1165 college graduates show a .531 correlation between high school GPA and cumulative college GPA (Schmitt, Keeney, & Oswald, 2009), suggesting that HSGPA can be used as a proxy for college GPA when college GPA is not reported. Self-reported intelligence estimates provide a valid, quick, and non-strenuous measure of cognitive ability.

Personality. Personality will be measured using John, Donahue, and Kentle's (1991) Big Five Inventory (see Appendix C). The Big Five Inventory (BFI) is a 44-item self-report inventory measuring openness to experience, conscientiousness, extraversion,

agreeableness, and neuroticism. Participants are asked to rate how much they agree or disagree with a list of statements on a 5-point Likert scale. The BFI has high internal consistency ($\alpha = .85$) and convergent validity with Goldberg's (1992) Trait Descriptive Adjective questionnaire ($r = .81$), and a clear factor structure (John & Srivastava, 1999; Zheng, Goldberg, Zheng, Xhao, Tang, & Liu, 2008). The BFI takes approximately 10-15 minutes to complete. The BFI provides both a valid and short measure of personality, as opposed to other valid but relatively lengthy measures such as the 472-item CPI, which requires 50-60 minutes for completion.

Emotional intelligence. Emotional intelligence will be measured using Wong and Law's (2002) *Wong and Law EI Scale* (see Appendix D). The Wong and Law EI Scale (WLEIS) is a 16-item scale composed of four dimensions: self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE). The four dimensions allow us to measure whether emotionally intelligent leaders are better able to accurately perceive the emotions of themselves and others (SEA, OEA), to be more empathic (OEA), and to redirect negative emotion in order to gain clarity (UOE, ROE). The WLEIS is best categorized as a Trait-EI scale, and thus does not correlate strongly with cognitive ability (Perez, Petrides, & Furnham, 2005). However, like other trait EI scales (e.g. EQ-I, and TEAQue) the WLEIS does have moderate correlations with Big Five personality traits, primarily because the two constructs overlap conceptually. Nonetheless, the WLEIS has shown good discriminant validity with the Big Five traits, and has shown incremental validity above and beyond the Big Five traits in

predicting life satisfaction, suggesting that the two constructs are distinct (Law, Wong, & Song, 2002; Wong & Law, 2002). The four scales of the WLEIS - SEA, OEA, UOE, and ROE - show reliability estimates of .89, .88, .76, and .85 respectively (Wong & Law, 2002). Participants are asked to rate how much they agree or disagree with a statement on a 7-point scale of “Strongly Disagree” (1) to “Strongly Agree” (7) and take approximately 10 minutes to complete.

Proposed Analyses

The analyses that follow will rely on correlations and regression modeling. Hypotheses 3a-3e share identical processes, since these hypotheses explore the incremental validity of emotional intelligence above and beyond cognitive ability and each factor of the Big Five personality traits individually.

Hypothesis 1. Hypothesis 1 will be tested by examining the correlation between SOA and emotional intelligence scores. The difference scores obtained from the LVI measure on all 48 items will be tested for their correlation with leader emotional intelligence (obtained from the WLEIS measure). If the correlation between leader emotional intelligence and difference scores is significant, then emotional intelligence is a predictor of SOA, supporting Hypothesis 1.

Hypothesis 2. I will test Hypothesis 2 by running a hierarchical regression model to predict SOA. I will first run a model of SOA using cognitive ability alone. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 2 will be supported;

indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond cognitive ability in predicting SOA.

Hypothesis 3a. Similar to Hypothesis 2, I will test Hypothesis 3a by running a hierarchical regression model to predict SOA. I will first run a model of SOA with neuroticism. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 3a will be supported; indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond neuroticism in predicting SOA.

Hypothesis 3b. I will test Hypothesis 3b by running a hierarchical regression model to predict SOA. I will first run a model of SOA with conscientiousness. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 3b will be supported; indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond conscientiousness in predicting SOA.

Hypothesis 3c. I will test Hypothesis 3c by running a hierarchical regression model to predict SOA. I will first run a model of SOA with openness to experience. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 3c will be supported; indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond openness to experience in predicting SOA.

Hypothesis 3d. I will test Hypothesis 3d by running a hierarchical regression model to predict SOA. I will first run a model of SOA with extraversion. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 3d will be supported; indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond extraversion in predicting SOA.

Hypothesis 3e. I will test Hypothesis 3e by running a hierarchical regression model to predict SOA. I will first run a model of SOA with agreeableness. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 3e will be supported; indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond agreeableness in predicting SOA.

Hypothesis 4. I will test Hypothesis 4 by running a Hierarchical regression model to predict SOA. I will first run a model of SOA with cognitive ability and all five of the Big Five personality traits. Next, I will add emotional intelligence to the model. If the change in R-squared due to adding EI to the model is significantly different from zero, then Hypothesis 4 will be supported; indicating that emotional intelligence provides incremental validity ($\Delta R^2_{\text{Emotional Intelligence}}$) above and beyond cognitive ability and the Big Five personality traits in predicting SOA.