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# A Meta-Analysis of Emotional Intelligence and Work Attitudes

1<sup>st</sup> Chao Miao\*, 2<sup>nd</sup> Ronald H. Humphrey, and 3<sup>rd</sup> Shanshan Qian

<sup>1</sup> Wilkes University

<sup>2</sup> Lancaster University

<sup>3</sup> Towson University

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\*Requests for reprints should be addressed to Chao Miao, Finance, Accounting and Management Department, Jay S. Sidhu School of Business & Leadership, Wilkes University Wilkes-Barre, PA 18766, USA (e-mail: [chao.miao@wilkes.edu](mailto:chao.miao@wilkes.edu)).

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### Abstract

Our meta-analysis of emotional intelligence (EI) demonstrates that: First, all three types of EI are significantly related with job satisfaction (ability EI:  $\hat{\rho} = .08$ ; self-report EI:  $\hat{\rho} = .32$ ; and mixed EI:  $\hat{\rho} = .39$ ). Second, both self-report EI and mixed EI exhibit modest yet statistically significant incremental validity ( $\Delta R^2 = .03$  for self-report EI and  $\Delta R^2 = .06$  for mixed EI) and large relative importance (31.3% for self-report EI and 42.8% for mixed EI) in the presence of cognitive ability and personality when predicting job satisfaction. Third, we found mixed support for the moderator effects (i.e., emotional labor demand of jobs) for the relationship between EI and job satisfaction. Fourth, the relationships between all three types of EI and job satisfaction are mediated by state affect and job performance. Fifth, EI significantly relates to organizational commitment (self-report EI:  $\hat{\rho} = .43$ ; mixed EI:  $\hat{\rho} = .43$ ) and turnover intentions (self-report EI:  $\hat{\rho} = -.33$ ). Sixth, after controls, both self-report EI and mixed EI demonstrate incremental validity and relative importance (46.9% for self-report EI; 44.2% for mixed EI) in predicting organizational commitment. Seventh, self-report EI demonstrates incremental validity and relative importance (60.9%) in predicting turnover intentions.

**Practitioner Points**

- Employees with higher emotional intelligence have higher job satisfaction, higher organizational commitment, and lower turnover intentions.
- Adding emotional intelligence measures to the set of personality and cognitive measures currently being used can improve the ability to assess employee job satisfaction, organizational commitment, and turnover intentions.
- Emotional intelligence improves job satisfaction by helping employees reduce negative feelings and by increasing positive feelings.
- Emotional intelligence improves job satisfaction by improving job performance.
- To produce productive and satisfied workers, organizations should incorporate emotional intelligence in employee recruitment, training, and development programs.

## **A Meta-Analysis of Emotional Intelligence and Work Attitudes**

### **Introduction**

Emotional Intelligence (EI) (Mayer, Roberts, & Barsade, 2008; Mayer & Salovey, 1997) is defined “as the set of abilities (verbal and non-verbal) that enable a person to generate, recognize, express, understand, and evaluate their own, and others’, emotions in order to guide thinking and action that successfully cope with environmental demands and pressures” (Van Rooy & Viswesvaran, 2004, p. 72). There is a large volume of evidence both confirming the predictive validity of EI and indicating that EI predicts outcomes such as academic performance, emotional labor, job performance, organizational citizenship behavior, workplace deviance, leadership, life satisfaction, stress, trust, team process effectiveness, and work–family conflict (Ashkanasy & Daus, 2002; Bar-On, 2000; Gooty, Connelly, Griffith, & Gupta, 2010; Humphrey, 2002, 2013; Jordan, Ashkanasy, Hartel, & Hooper, 2002; Kellett et al., 2006; Klumper et al., 2013; O’Boyle, Humphrey, Pollack, Hawver, & Story, 2011; Winkel, Wyland, Shaffer, & Clason, 2011). However, the relationships between EI and work attitudes remain indeterminate and unclear. Differences in effect sizes between primary studies also suggest a need to meta-analyze the relationships between EI and work attitudes. It is also important to understand how EI influences work attitudes, and so we unpack its relationship with job satisfaction by evaluating mediating and moderating factors in this relationship. Finally, as organizations consider developing the EI of their employees, it is important to understand how this variance affects worker attitudes.

In this study, we performed a meta-analysis on the relationships between EI and three important work attitudes: job satisfaction, organizational commitment, and turnover intentions. EI may influence work attitudes in a variety of ways. Job satisfaction reflects appraisal-based

reactions toward one's job, meaning that favorable evaluations of work characteristics produce job satisfaction and unfavorable appraisals of work characteristics engender job dissatisfaction (Breux, Munyon, Hochwarter, & Ferris, 2009; Weiss, 2002). EI may have a considerable influence on how people appraise their jobs because EI consists, in part, of the ability to reason effectively about events that produce positive or negative emotions. Consequently, EI may have a strong influence on how employees interpret and react to work events.

Job performance is a key work event, and to the extent that employees find that performing well at work helps them meet their personal goals, then high job performance should increase job satisfaction (Locke, 1969) and other work attitudes. Thus it is not only the level of the performance, but the employees' perceptual processes and personal goals that determine whether job performance increases job satisfaction (Munyon, Hochwarter, Perrewé, & Ferris, 2010). EI may be a characteristic that predisposes employees to see job performance in a light that enhances job satisfaction. Although many models of attitudes and behaviors assume that attitudes cause behaviors, self-perception theory (Bem, 1967) suggests that people also observe their behaviors in order to infer their own attitudes. There is considerable evidence that job performance can influence attitudes (Judge, Thoresen, Bono, & Patton, 2001; Locke & Latham, 2002). Prior meta-analyses have established that EI is positively related to job performance (e.g., O'Boyle et al., 2011). Thus EI should have an indirect path through job performance to job satisfaction.

These same processes may also occur when employees observe their other work behaviors (i.e., besides their direct job performance) and the other aspects of their work environment. In other words, EI may help cast a rosy glow over a wide variety of work events and help employees interpret them in a positive light, one that promotes positive affect and

diminishes negative affect. Employees who then observe their positive mood and a positive workplace will naturally then infer that they have high job satisfaction. Because positive and negative affect are important mediators according to Affective Events Theory (Weiss & Cropanzano, 1996), EI's effects on work attitudes should be at least partially mediated by positive and negative state affect.

Our research has several key purposes. No prior meta-analyses have examined EI and work attitudes, so the following relationships have not been tested using meta-analytic techniques for establishing the most accurate estimates of effects sizes, incremental validity, moderators, and mediator effects. We have addressed this by first using meta-analysis to more accurately determine the overall size of the relationships between EI and work attitudes (job satisfaction, organizational commitment, and turnover intentions). Second, we use meta-analyses to control for personality and cognitive intelligence, and to test for EI's incremental predictability and relative importance when predicting work attitudes. Third, we test for an important moderator of the EI-job satisfaction relationship. Fourth, we examine whether the EI-job satisfaction relationship is mediated by state affect and by job performance.

## **Theory and Hypotheses**

### **Employee EI and Work Attitudes**

**The classification of EI.** The construct of EI has received substantial attention from researchers in the fields of psychology and management (Joseph & Newman, 2010; Kellett, Humphrey, & Sleeth, 2006; Kluemper, DeGroot, & Choi, 2013; Mayer et al., 2008). EI is argued to be a predictor of job performance (Goleman, 1995) and effective leadership (Walter & Bruch, 2009; Walter, Cole, & Humphrey, 2011). To make sense of this considerable research, Ashkanasy and Daus (2005, p. 441) categorized EI research into three streams. These have

become known as ability EI (stream 1), self-report EI (stream 2), and mixed EI (stream 3). To show that EI measures can satisfy the traditional criteria for intelligence measures by having objective right and wrong answers, Mayer and his colleagues developed and refined their measure – MSCEIT V2.0 (Mayer, Salovey, Caruso, & Sitarenios, 2003). MSCEIT V2.0 is a representative ability EI measure. Researchers have found that subscales of the MSCEIT V2.0 have predictive ability for important work-related variables even when controlling for cognitive intelligence and the Big Five personality traits (Kluemper et al., 2013). Ability measures of EI have also been shown to be related to emotion-focused coping, which in turn facilitates performance (Gooty, Gavin, Ashkanasy, & Thomas, 2014). Other researchers believe that self-reports are an excellent way to assess EI because intrapersonal processes, such as an awareness of one’s emotions, are most easily measured by self-assessments of internal states (e.g., Petrides & Furnham, 2003). These researchers often conceptualize EI as a trait rather than as an ability (Petrides, 2009a, 2009b; Petrides & Furnham, 2003). Representative measures in the stream 2 self-reports category include the Assessing Emotions Scales (AES) (Schutte et al., 1998), the Workgroup Emotional Intelligence Profile (WEIP) (Jordan, Ashkanasy, Hartel, & Hooper, 2002), and the Wong & Law Emotional Intelligence Scale (WLEIS) (Wong & Law, 2002). Representative mixed EI measures include the Bar-On Emotional Quotient Inventory (EQ-i) (Bar-On, 2000) and the Emotional and Social Competency Inventory (ESCI) (Boyatzis, Brizz, & Godwin, 2011). Like the stream 2 self-reports, mixed EI measures use self-report measures; however, they include a broader set of variables and competencies as well as traits.

It is noted that these three streams of EI are related yet still distinct from each other in a number of ways. O’Boyle and his colleagues demonstrated that, “Because stream 3 measures overlap both in their measurement method and in the content of their questions, while stream 2

measures only overlap with regard to the use of self-reports, stream 3 measures should show higher relationships with personality factors than stream 2 measures.....stream 3 measures, unlike stream 2, include measures of personality factors not directly related to EI, so it is likely that these measures will overlap more with similar personality measures” (2011, p. 793). It is worthwhile to point out that some overlap between EI and other constructs is reasonable and is indicative of construct validity because EI should be related to personality variables such as emotional stability (O’Boyle et al., 2011). Their meta-analytic results confirmed this prediction and showed that corrected correlations between personality and both stream 1 ability EI and stream 2 self-report EI range from weak to moderate, whereas the corrected correlations between personality and stream 3 mixed EI range from moderate to strong.

**Meta-analytic findings of EI.** There are multiple meta-analytic reviews that investigated the relationship between EI and job performance. Van Rooy and Viswesvaran (2004) performed a meta-analysis and reported a .23 operational validity of EI in predicting performance; they concluded that EI is indeed a valuable predictor of performance. They also found that overall EI has small to moderate corrected correlations with personality traits and a small corrected correlation with cognitive ability. Joseph and Newman (2010) meta-analytically integrated the research on EI and job performance, and proposed a cascading model of EI with emotional labor as a moderator. O’Boyle et al. (2011) performed a meta-analysis of EI and contributed to the cumulative scientific knowledge by improving the two aforementioned meta-analyses. For instance, O’Boyle and his colleagues included more studies and examined how each type of EI measure correlated with Big Five personality measures and cognitive ability. They employed dominance analysis to assess the relative importance of each EI stream in predicting job performance. They found that all three streams of EI correlated with job performance, and that



self-report EI and mixed EI exhibited incremental validities over and above cognitive intelligence and the five factor model of personality (FFM) in predicting job performance. Dominance analyses also demonstrated that all three streams of EI showed meaningful relative importance for the prediction of job performance in the presence of the FFM and cognitive intelligence.

**Job satisfaction.** Job satisfaction is one of the most influential, important, and popular constructs in the area of organizational psychology because it is a predictor of many critical behavioral, attitudinal, and health-related outcomes, such as organizational citizenship behavior, counterproductive work behavior, task performance, organizational commitment, turnover intention, turnover, withdrawal cognitions and behaviors, and physical and psychological health outcomes (Judge & Kammeyer-Mueller, 2012; Schleicher et al., 2011). There exist multiple definitions of job satisfaction. Weiss (2002) pointed out that the attitudinal approach to defining job satisfaction is the most accepted one in the literature. This approach conceptualizes job satisfaction as having both affective (emotional) and cognitive (belief) bases (Fisher, 2000; Weiss, Nicholas, & Daus, 1999; Weiss, 2002). The affective base of job satisfaction refers to one's feelings about an attitude object, whereas the cognitive base of job satisfaction refers to one's beliefs about an attitude object (Schleicher et al., 2011). This conceptualization of job satisfaction dovetails with goal setting theory, which suggests that job satisfaction, at its core, reflects goal achievement at work because both affective and cognitive bases of job satisfaction are influenced by one's progress toward goal achievement (Diener, Suh, Lucas, & Smith, 1999; Locke, 1969, 1976; Locke et al., 1970). Goals serve as the reference criteria for satisfaction versus dissatisfaction, meaning that for any given trial, the achievement of goals produces

satisfaction and failure to reach goals creates dissatisfaction (Locke & Latham, 2002). Across trials, the more goals one reaches, the higher one's satisfaction is.

**EI – job satisfaction, organizational commitment, and turnover intentions.** EI should positively relate to job satisfaction and organizational commitment, and be negatively related to turnover intentions. Emotionally intelligent individuals are able to regulate their emotions, meaning they are less likely to leave an organization due to emotional shocks and so may have reduced turnover intentions and greater organizational embeddedness (see Mitchell & Lee, 2001; Mitchell, Holtom, Lee, Sablinski, & Erez, 2001). Similarly, we would expect EI to positively predict organizational commitment, as employees view work as instrumental in achieving their work-related goals. As previously mentioned, job satisfaction consists of job appraisals, such that satisfactory assessments of work characteristics produce job satisfaction and negative judgments of work characteristics create job dissatisfaction (Breux et al., 2009; Weiss, 2002). EI encompasses the ability to reason productively about positive and negative workplace events and thus should have a strong influence on how employees interpret and respond to work events. When high job performance helps employees meet their personal goals then it should increase job satisfaction (Locke, 1969; Locke & Latham, 2002) and organizational commitment and thereby reduce turnover intentions. Because EI improves job performance (O'Boyle et al., 2011) it should indirectly influence job satisfaction.

Emotionally savvy individuals are inclined to interpret their jobs as more satisfying and rewarding rather than threatening and hostile (Fox & Spector, 2000; Kong & Zhao, 2013; Thoresen et al., 2003; Walter & Bruch, 2009). This is because emotionally intelligent individuals are more resilient, are more likely to bounce back from negative feelings, and are more adept at evaluating and regulating their own emotions (Sy et al., 2006). Emotionally intelligent

individuals have a greater understanding of the causes of stress. Consequently, they know how to craft effective plans to deal with negative outcomes in order to maintain positive feelings and high job satisfaction. This may be one reason why people high on EI have better physical and mental health, according to two meta-analyses (Martins, Ramalho, & Morin, 2010; Schutte et al., 2007). In addition, people with high EI can accurately read others' emotions, and reading others' emotions helps people understand how to respond to others and how to act in appropriate ways in a variety of social situations (Byron, 2007). As a result, employees with high EI should have positive social relationships with others in the workplace, and this should result in higher job satisfaction and organizational commitment (Goleman, 1995; Kafetsios & Zampetakis, 2008). Empirical findings support a positive link between EI and overall job satisfaction (e.g., Kafetsios & Zampetakis, 2008; Sy et al., 2006; Wong & Law, 2002), and between EI and organizational commitment and turnover intentions (Jordan & Troth, 2011).

*Hypothesis 1: EI should positively relate to job satisfaction and organizational commitment; and EI should negatively relate to turnover intentions.*

**Incremental validity and relative importance of EI.** EI denotes variation in the extent to which people can resolve a set of problems involving emotions, thus differentiating EI from other intelligence factors that primarily center on cognitive processes (Côté, 2014; Côté & Miners, 2006; Mayer, Roberts, & Barsade, 2008). EI refers to a general intelligence in the realm of emotions, whereas cognitive intelligence refers to a general intelligence in the realm of cognition (Côté, 2014; Côté & Miners, 2006). As such, EI differs from cognitive intelligence due to its unique representation of intelligence in the domain of emotion. EI differs from personality as well, because personality does not reflect one's ability/intelligence, whereas EI does (Joseph & Newman, 2010). Due to these reasons, EI has unique content and has often displayed

incremental validity in predicting outcomes over other measures of intelligence, socio-emotional traits, and personality factors, which has already been supported by meta-analytic findings (Côté, 2014; Mayer et al., 2008).

Meta-analytic findings have demonstrated that the overlap between all three types of EI and cognitive ability is weak to moderate and the overlap between all three types of EI and FFM is weak to moderate in general (O'Boyle et al., 2011). It is worthwhile to point out that some overlap is reasonable and is indicative of construct validity, because EI should be related to personality variables such as emotional stability (O'Boyle et al., 2011). EI should also relate to cognitive ability because it is a form of intelligence (Côté, 2014).

Taken altogether, despite the overlap between EI and cognitive ability and personality, there is still much unique variance in EI that cannot be explained by personality and cognitive ability, and this unique variance may predict job satisfaction, organizational commitment, and turnover intentions above and beyond personality and cognitive ability (Côté, 2014; O'Boyle et al., 2011; Sy et al., 2006). We accordingly offer the following hypotheses:

*Hypothesis 2: EI should contribute incremental validity and relative importance in the presence of the FFM and cognitive ability when predicting job satisfaction, organizational commitment, and turnover intentions.*

**Differential validity of EI.** Personality is a good predictor of job satisfaction because personality traits reflect one's affective disposition and influence one's interpretation of job characteristics and one's mood at work (Judge, Heller, & Mount, 2002). On the other hand, cognitive ability is a weak predictor of job satisfaction because cognitive ability is a cognitive trait, whereas job satisfaction is primarily determined by affective dispositions, such as personality traits like extraversion and neuroticism (Ganzach, 1998; Staw, Bell, & Clausen,

1986). To support these arguments, meta-analytic findings have demonstrated that personality is a good predictor of job satisfaction (Judge, Heller, & Mount, 2002), whereas cognitive ability is a weak predictor of job satisfaction (Gonzalez-Mulé, Carter, & Mount, 2014).

Mixed EI has the highest correlation with personality, self-report EI the next highest, and ability EI the lowest correlation with personality (O'Boyle et al., 2011). In addition, ability EI has the highest correlation with cognitive ability, while self-report EI and mixed EI have small correlations with cognitive ability. Overall, this suggests that ability EI measures may be similar to cognitive intelligence measures in their impact on job satisfaction and thus have fairly small correlations with job satisfaction. In a similar vein, mixed EI measures have the highest associations with personality measures and thus should have the largest correlation with job satisfaction. We thus propose the following hypothesis:

*Hypothesis 3: Mixed EI will show the strongest relationship with job satisfaction, self-report EI the next strongest, and ability EI the weakest relationship with job satisfaction.*

### **The Mediating Role of Affect**

EI may be a characteristic that inclines employees to view a wide variety of organizational events in a manner that augments positive affect. Consistent with self-perception theory (Bem, 1967), employees may observe their positive moods at work and infer that they have high job satisfaction. This is consistent with Affective Events Theory (AET; Weiss & Cropanzano, 1996), which also provides explanations for the positive link between EI and job satisfaction through state affect. State affect refers to “what one is feeling at any given moment in time” (Thoresen et al., 2003, p. 915). State positive affect (SPA) refers to pleasant emotions such as feeling active, alert, and energetic at any given moment in time, whereas state negative affect (SNA) refers to the momentary experience of anger, fear, nervousness, and other negative

emotions at any given moment in time (Watson, Clark, & Tellegen, 1988; Watson, 2000). Meta-analytic findings have indicated that SPA is positively related to job satisfaction and personal accomplishment and negatively related to emotional exhaustion and depersonalization, whereas SNA is negatively related to job satisfaction and personal accomplishment and positively related to emotional exhaustion and depersonalization (Thoresen et al., 2003).

AET suggests that each individual should have an average affective mood level, and that some people tend to be on the positive half whereas others tend to be on the negative half. Further, responding to discrete “affective events” in the workplace will influence affective responses, thus leading to affective, attitudinal, and behavioral outcomes; as such, this average mood level can be either diminished or raised by negative or positive events at work. Hence, affective reactions generated by workplace events (i.e., SPA and SNA) create ebb and flow in job satisfaction (Ashkanasy & Humphrey, 2011; Humphrey, 2013; Johnson, 2009; Walter & Bruch, 2009; Weiss & Cropanzano, 1996; Weiss et al., 1999).

Building on AET, we argue that there are two prominent categories of reasons why EI is associated with job satisfaction – enhancement of SPA and reduction of SNA. Job satisfaction has an affective (i.e., feeling) component (Weiss et al., 1999; Weiss, 2002). We propose that EI may contribute to the affective base of job satisfaction by increasing SPA and decreasing SNA. Emotionally intelligent individuals are able to identify and interpret cues that activate self-regulatory action in order to cultivate SPA and circumvent SNA (Karim, 2009; Mayer & Salovey, 1997). High EI individuals are better at handling affective processes because they can accurately perceive and monitor their own feelings and precisely process emotional information in order to effectively respond to their feelings. This allows them to develop appropriate strategies to regulate SNA and maintain SPA (Dong, Seo, & Bartol, 2013). They are sensitive and reactive to

positive emotion-invoking experiences at work, thus making them feel more positive (more SPA) and less negative (less SNA) at work (De Clercq, Bouckenooghe, Raja, & Matsyborska, 2014). Since SPA is positively related to job satisfaction, whereas SNA is negatively related to job satisfaction (Thoresen et al., 2003), high EI persons can increase their job satisfaction by regulating their emotions to experience more intense SPA and less SNA.

A considerable number of studies have examined EI and job satisfaction, and the ample number of studies has allowed us to test for mediators and moderators. However, fewer studies have been done on the relationships between EI and organizational commitment and turnover intentions, so we could not examine mediators and moderators for these outcome variables. We advance the following hypotheses:

*Hypothesis 4: SPA mediates the relationship between EI and job satisfaction.*

*Hypothesis 5: SNA mediates the relationship between EI and job satisfaction.*

### **Goal Setting Theory and the Mediating Role of Job Performance**

Prior meta-analytic evidence has confirmed a positive relationship between EI and job performance (e.g., Joseph & Newman, 2010; O'Boyle et al., 2011). EI may increase job performance because emotionally intelligent individuals are able to regulate their emotions in order to experience positive emotions. Positive emotions widen employees' behavioral repertoires, increase their behavioral flexibility, and boost their attentional scope, thus resulting in increased job performance (Judge & Kammeyer-Muellar, 2008).

In line with goal setting theory, job satisfaction is an outcome of goal-directed performance, because one's progress toward goal accomplishment (i.e., goal-directed performance) influences job satisfaction (Locke, 1969; Locke & Latham, 2002). Across trials, the better one performs, the more goals one accomplishes and the higher job satisfaction one has.

Judge and his colleagues (Judge et al., 2001) pointed out that if effective job performance supports the accomplishment of major goals in work, individuals should have higher job satisfaction as a result.

Taken altogether, we propose that job performance should mediate the relationship between EI and job satisfaction because EI enables one to attain one's performance goals, and obtaining goals increases job satisfaction (Locke, 1976). Consistent with self-perception theory, employees observe their level of performance and perceive a corresponding level of job satisfaction (Bem, 1967). Emotionally savvy individuals have a better understanding of themselves, and this increases both their ability to set self-motivating goals and their chances of achieving performance goals that lead to job satisfaction (Kafetsios & Zampetakis, 2008; Mayer & Salovey, 1997; Spence, Oades, & Caputi, 2004; Wong & Law, 2002). For example, emotionally intelligent individuals know how to recognize their supervisors' attitudes from emotional cues; moreover, they know how to regulate their own emotion to act and communicate in ways that foster better social relationships with their supervisors (Wong & Law, 2002), which in turn should lead to higher performance appraisals and job satisfaction.

Emotionally intelligent individuals also regulate their emotions to deter the draining of resources that cause burnout, to quickly bounce back from negative feelings, and to maintain positive feelings so that they can preserve and replenish cognitive and emotional resources. According to the job demands–resources model, conserving these cognitive resources should enable employees to more effectively accomplish the performance goals that lead to positive outcomes such as job satisfaction (Bakker & Demerouti, 2007; Crawford, LePine, & Rich, 2010; Hobfoll, 2001). We suggest the following hypothesis:

*Hypothesis 6: Job performance mediates the relationship between EI and job satisfaction.*



## **Moderators**

**Emotional labor.** Emotional labor refers to “the management of feeling to create a publicly observable facial and bodily display” (Hochschild, 1983, p. 7). Jobs that involve emotional labor include face to face or voice to voice contact with the public, produce an emotional state in another person, and allow employers to exercise a degree of control over the emotional activities of employees (Hochschild, 1983). Thus, emotional labor requires the act of both displaying the appropriate emotion (i.e., conforming to a display rule) and of regulating both feelings and expressions to forward organizational goals (Ashforth & Humphrey, 1993; Grandey, 2000). Meta-analysis has related emotional labor to employee well-being, job satisfaction, and organizational attachment (Hulsheger & Schewe, 2011).

It is likely that the association between EI and job satisfaction is conditioned by work contexts (Côté, 2014). One such contextual variable is the emotional labor demand of jobs. Prior findings indicate that EI should predict criteria more strongly in jobs that involve high emotional labor, because these jobs require employees to regulate their emotional expressions, and thus involve a high level of emotional regulation (Humphrey, Ashforth, & Diefendorff, 2015; Johnson & Spector, 2007; Joseph & Newman, 2010; Wong & Law, 2002). A meta-analysis found that people high on EI are more likely to use the most effective form of emotional labor (Wang, Seibert, & Boles, 2011). The choice of emotional labor demand as a contextual variable is consistent with trait activation theory, which suggests that traits should more strongly predict outcomes when a context has trait-relevant cues that activate the expression of traits (Tett & Burnett, 2003; Tett & Guterman, 2000).

We have predicted that the relationship between EI and job satisfaction will be stronger when a job requires high levels of emotional labor. When a job requires frequent

customer/interpersonal interaction (i.e., high emotional labor demand), the expression of EI should be activated because employees need to rely more on their EI to regulate their emotions in order to prevent emotional and cognitive resources from being drained, and to effectively maintain and enhance job satisfaction. Where there is infrequent customer/interpersonal interactions (i.e., low emotional labor demand), the expression of EI may be suppressed because this job does not demand the use of EI to handle interpersonal interactions. Thus we hypothesize:

*Hypothesis 7: Emotional labor demand moderates the relationship between EI and job satisfaction such that the relationship becomes stronger when emotional labor demand is high.*

## **Method**

### **Literature Search**

We applied several search techniques to maximize the likelihood of capturing all relevant studies. We set the range of dates starting from the earliest date of each database, journal, and conference to year 2014. We used a list of keywords (and several variations of them) for search, such as *emotional intelligence, emotional competency, emotional ability, job satisfaction, work satisfaction, organizational commitment, and turnover intention.*

First, we searched electronic databases, such as *ABI/INFORM, EBSCO Host* (e.g., *Academic Search Complete* and *Business Source Complete*), *Google, Google Scholar, JSTOR, ProQuest Dissertations and Theses, PsycNET* (e.g., *PsycInfo* and *PsycArticles*), and *Social Science Citation Index*. Second, major journals in psychology and management were also searched, such as *Academy of Management Journal, Administrative Science Quarterly, Journal of Applied Psychology, Journal of Management, Journal of Organizational Behavior, Journal of Occupational and Organizational Psychology, Organization Science, and Personnel Psychology.*

Third, we searched major management conferences, such as the Academy of Management, the Southern Management Association, and the Society for Industrial and Organizational Psychology. We contacted scholars who have published in the EI domain to ask for unpublished manuscripts, correlation matrices, and raw data, and we completed our search in October, 2014. We used the English language to search for relevant studies. Our search returned a few articles written in foreign languages that had English titles and abstracts. Two authors of this paper are bilingual and were able to read some of these articles. Our search yielded 1,036 articles.

### **Inclusion Criteria**

A study was deemed eligible for being included in the present meta-analysis if it met the following criteria. First, primary studies had to be empirical and quantitative. All qualitative studies were excluded. Second, primary studies had to report the correlation coefficients for the relationships between EI and job satisfaction, between EI and organizational commitment, between EI and turnover intentions, and/or between EI and state affect. When no such information existed in primary studies, sufficient statistics needed to be provided in such studies to allow the conversion into effect sizes (we employed Lipsey and Wilson's [2001] as well as Peterson and Brown's [2005] methods to perform effect size conversions). Third, primary studies had to use real employee samples in their research design. Studies based on non-employee samples (e.g., student samples) were eliminated from our meta-analysis. Fourth, a study had to use scales designed to measure EI. Studies that used proxy measures of EI (e.g., self-monitoring scales) were not eligible. When the above criteria were applied to screen the articles, it resulted in 119 studies. A list of tables describing the included studies and a list of references of the studies included in the present meta-analytic review were uploaded as online supplemental materials (see Table S3 to Table S10 in supplemental materials).

### **Coding Procedures**

We coded different categories of EI (i.e., ability EI, self-report EI, and mixed EI) based on O'Boyle et al. (2011) and Ashkanasy and Daus (2005). We coded emotional labor demands according to the methods developed by Joseph and Newman (2010). The occupations where there are frequent customer/interpersonal interactions that require emotion regulation were coded as high emotional labor demand jobs. The occupations where there are infrequent interpersonal/customer interactions that demand less emotion regulation were coded as low emotional labor demand jobs. Joseph and Newman (2010) categorized 191 jobs into high versus low emotional labor demand and we used their categorization to code the emotional labor demand of the studies that we found. We adhered to the coding rules developed by Thoresen et al. (2003) to code state-based affect (i.e., SPA and SNA). The studies where respondents were asked to rate their experiences of positive affect and negative affect over the previous week (or less) were coded as state affect. As argued by Thoresen et al. (2003), this one-week rule was in line with Watson's (2000) definition of state affect.

Two coders participated in coding and independently coded each sample. The initial coding agreement was 95%. Coding discrepancies were resolved through discussion. Another author of this paper was invited to join the discussion to solve any remaining coding disagreement when two coders could not reach consensus after discussion. All coding disagreement was handled and resolved and a 100% consensus was finally achieved.

### **Meta-Analytic Procedures**

We performed psychometric meta-analysis by using the procedures developed by Hunter and Schmidt (2004) to synthesize collected data. Statistical artifacts can have systematic downward bias effects on effect sizes and one source of statistical artifacts is measurement error

(Hunter & Schmidt, 2004). We thereby corrected for measurement errors in both independent and dependent variables for each individual correlation. We noted that some primary studies did not report the reliability. Thus, we imputed the missing reliability for both independent and dependent variables by using the mean of reliabilities of the studies that reported reliability information (Hunter & Schmidt, 2004; also see supplements for more details). We presented corrected sample-size-weighted mean correlation ( $\hat{\rho}$ ) as the estimate of population mean correlation. We calculated corrected 95% confidence intervals to determine the statistical significance of effect sizes. Effect sizes are considered to be statistically significant when corrected 95% confidence intervals do not include zero. We performed moderator analyses by using Hunter and Schmidt's (1990) approach (i.e., z-test). This test allows the examination of the statistical significance of between-group effect size difference. We computed  $\text{Var}_{\text{art}}\%$ , 80% credibility intervals, and Q statistic to determine the potential existence of moderators.  $\text{Var}_{\text{art}}\%$  denotes the percentage of the variance in  $\hat{\rho}$  explained by statistical artifacts. Hunter and Schmidt (2004) suggested that moderators may exist if statistical artifacts explain less than 75% of the variance in the meta-analytic correlations. We also reported corrected 80% credibility intervals to explore the potential existence of moderators because Whitener (1990) recommended that a wide 80% credibility interval indicates the possible existence of moderators. In addition, a statistically significant Q statistic suggests that heterogeneity exists in effect size distribution (i.e., the potential existence of moderators).

We created meta-analytically derived corrected correlation matrices (see Table S11(a) to Table S12 in supplemental materials) and performed hierarchical multiple regression, relative weight analyses, and meta-analytic structural equation modeling (Johnson, 2000; Johnson & LeBreton, 2004; Viswesvaran & Ones, 1995). Along with all effect sizes derived from the

present study, we also used corrected effect sizes from prior meta-analytic reviews to complete the input correlation matrices for these three analyses. We computed harmonic mean sample size (Viswesvaran & Ones, 1995) because sample sizes differed across the cells in the correlation matrices. Harmonic mean sample size produces more conservative estimates because less weight is given to large samples (Colquitt, Scott, & LePine, 2007).

## Results

### Main and Moderator Effects

Because of limited sample sizes for ability EI measures, we were not able to examine ability EI's relationships with either turnover intentions or organizational commitment. Likewise, there were not enough studies to allow us to perform meta-analysis on the mixed EI - turnover intentions relationship. In the following sections we will provide the results for EI measures only when the number of studies and sample sizes are large enough to justify them. Table 1 contains the results of the relationships between EI and job satisfaction, organizational commitment, and turnover intentions based on psychometric meta-analysis. The relationship between ability EI and job satisfaction ( $k = 13$ ,  $N = 1,927$ ) was positive and statistically significant ( $\hat{\rho} = .08$ ) because the corrected 95% confidence interval spanned from .01 to .15 and did not include zero. The effect sizes for the relationships between the other two types of EI and job satisfaction ( $\hat{\rho} = .32$  for self-report EI and  $\hat{\rho} = .39$  for mixed EI) show similar patterns of results. We repeated the same procedures and found that self-report EI positively relates to organizational commitment ( $\hat{\rho} = .43$ ) and negatively relates to turnover intentions ( $\hat{\rho} = -.33$ ). In addition, mixed EI positively relates to organizational commitment ( $\hat{\rho} = .43$ ). As such, Hypothesis 1, which proposed that EI should positively relate to job satisfaction and organizational commitment and negatively relate to turnover intentions, is supported.

We observed that there were substantial variations across effect sizes for three major distributions for the relationship between EI and job satisfaction, because far less than 75% of the variance in  $\hat{\rho}$  ( $\text{Var}_{\text{art}}\%$ ) was explained by statistical artifacts. This met Hunter and Schmidt's (2004) 75% rule for indicating the potential existence of moderators. Q statistics were significant as well, which further confirmed our conclusion that effect size distributions were heterogeneous for all three types of EI. Therefore, performing further moderator analyses was justified.

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 Insert Table 1 about here  
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 Insert Table 2 about here  
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The results of the effect size differences among different types of EI are shown in the last column of Table 1. This column also displays the results of all other moderator analyses as well. We performed z-tests to determine the statistical significance of the between-group differences. Our results indicate that ability EI has the lowest relationship with job satisfaction compared to the other two types of EI (self-report EI versus ability EI,  $\Delta\hat{\rho} = .24, p < .05$ ; mixed EI versus ability EI,  $\Delta\hat{\rho} = .31, p < .05$ ). The relationship between mixed EI and job satisfaction is marginally significantly larger than the relationship between self-report EI and job satisfaction ( $\Delta\hat{\rho} = .07, p < .1$ ). We therefore concluded that Hypothesis 3 is supported (see Table 2).

Emotional labor was a significant moderator only for the self-report EI – job satisfaction relationship. Thus there was mixed support for Hypothesis 7.

### **Incremental Validity, Relative Weight Analyses, and Meta-Analytic Structural Equation Modeling**

**Incremental validity analysis.** Table 3 displays the results of incremental validity analysis based on the hierarchical multiple regression analysis. When the dependent variable is job satisfaction, the first model demonstrates that cognitive ability and the FFM in combination account for 15% ( $p < .001$ ) of the variance in job satisfaction. The second, third, and fourth models illustrate the incremental validity of each type of EI in the presence of cognitive ability and the FFM. The second model shows that ability EI contributes no incremental validity ( $p = ns$ ) in the presence of cognitive ability and the FFM. On the other hand, the third and the fourth models show that both self-report EI and mixed EI contribute an additional 3% ( $p < .001$ ) and 6% ( $p < .001$ ) of variance respectively, above and beyond cognitive ability and the FFM.

When the dependent variable is organizational commitment, self-report EI and mixed EI contribute an additional 9% ( $p < .001$ ) and 8% ( $p < .001$ ) of variance respectively, above and beyond cognitive ability and the FFM. When the dependent variable is turnover intentions, self-report EI contributes an additional 8% ( $p < .001$ ) of variance above and beyond cognitive ability and the FFM.

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Insert Table 3 about here  
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**Relative weight analysis.** Since the predictors in our regression model are correlated, we performed relative weight analysis to determine the relative importance of each predictor in predicting employee job satisfaction. Table 3 displays the results of relative weight analysis for all three types of EI in the last two columns of each model. Ability EI only contributed 1.3% of the explained variance, along with a  $R^2$  contribution of .00 in model 2. It failed to meet our threshold for a small effect (see the section of supplemental notes in supplemental materials for



details about how we determined the criteria of small, medium, and large effects). Further, ability EI demonstrated the least relative importance compared to all other predictors in Model 2.

Unlike ability EI, self-report EI and mixed EI all demonstrated relative importance in the presence of the FFM and cognitive ability. Self-report EI is the most dominant predictor in Model 3, capturing 31.3% of the explained variance along with an  $R^2$  contribution of .06. The second most dominant predictor in Model 3 was extraversion ( $RW\% = 23.2\%$ ;  $R^2 = .04$ ) and the least dominant predictor was cognitive ability ( $RW\% = 1.4\%$ ;  $R^2 = .00$ ). Mixed EI is the most dominant predictor relative to the FFM and cognitive ability in Model 4, contributing 42.8% of the explained variance as well as a  $R^2$  contribution of .09. The second most dominant predictor was extraversion ( $RW\% = 17.2\%$ ;  $R^2 = .04$ ) and the least dominant predictor was cognitive ability ( $RW\% = 1.5\%$ ;  $R^2 = .00$ ). Mixed EI had more than twice the relative importance of the second most dominant predictor (i.e., extraversion).

With regard to organizational commitment, self-report EI and mixed EI demonstrated impressive relative importance of 46.9% ( $R^2 = .12$ ) and 44.2% ( $R^2 = .11$ ) respectively. When the dependent variable was turnover intentions, self-report EI showed large relative importance of 60.9% ( $R^2 = .09$ ). Because of the large effects for both self-report and mixed EI, we hold that Hypothesis 2 is supported, but note that there is scale-based moderation with regard to ability measures.

**Meta-analytic structural equation modeling.** We performed meta-analytic structural equation modeling to test the hypotheses related to mediation. Mediation would exist if the test were to show a significant indirect path. We separated mixed EI from both ability EI and self-report EI when performing mediation testing, because mixed EI has moderate and high multicollinearity with ability EI and self-report EI respectively. The presence of multicollinearity

would inflate standard errors, reduce statistical power, cause the issues of bouncing betas, and produce uninterpretable results (Schwab, 2005). We still kept ability EI and self-report EI together when testing mediation, because the correlation between ability EI and self-report EI was just .12, which did not cause multicollinearity issues.

We used meta-analytic structural equation modeling to compare a list of alternative models (see Table S14 in supplemental materials). For Test 1 in Table S14, we assessed how state affect and job performance mediate the relationships between ability EI, self-report EI and job satisfaction. We compared all the other models with Model 1 – a partial mediation model with direct paths from both ability EI and self-report EI to job satisfaction. Chi-squared difference test showed that the differences between all three alternative models and Model 1 are consistently not statistically significant, meaning that making the model more parsimonious does not worsen model fit. We chose Model 4 (full mediation model) because it is the most parsimonious one among all four models and it also fits the data very well ( $\chi^2[2] = 3.53 [p = .17]$ , CFI = 1.00, NFI = 1.00, GFI = 1.00, SRMR = .01).

We applied the same method for Test 2 in Table S14, where we assessed how state positive affect (SPA), state negative affect (SNA), and job performance mediate the relationship between mixed EI and job satisfaction. Although chi-squared difference test showed that partial mediation model (Model 1) demonstrates better model fit than full mediation model (Model 2) ( $\Delta\chi^2[1] = 88.26$ ), we still decided to choose full mediation model (Model 2) due to three reasons. First, sample size greatly influences the chi-squared difference and our meta-analytic sample size was large (Kline, 2011). Therefore, even a negligible difference between models may still have produced a statistically significant chi-square statistic in the present study (Berry, Lelchook, & Clark, 2012). Second, partial mediation model (Model 1) is a saturated model and we cannot

derive any conclusion from this model. As such, Model 2, a non-saturated model, is more preferable relative to Model 1. Third, full mediation (Model 2) not only displays acceptable model fit (CFI = .92, NFI = .92, GFI = .98, SRMR = .05), but is also more parsimonious than Model 1. Hence, we opted to choose Model 2 in Test 2 due to the aforementioned reasons. Both chosen models based on the results of model comparison were indicated with bold characters in Table S14.

Figure 1 presents the results of the examination of mediation, along with all standardized path coefficients for all chosen models. Figure 1 (a) corresponds to Model 4 under Test 1 in Table S14. Figure 1 (b) corresponds to Model 2 under Test 2 in Table S14.

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Insert Figure 1 about here  
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With regard to Figure 1 (a), we assessed how SPA, SNA, and job performance mediated the relationship between ability EI and self-report EI and job satisfaction. We performed three sets of mediation tests - Sobel test, Aroian test, and Goodman test. For instance, the indirect paths from self-report EI to job satisfaction through SPA ( $\beta = .15$ ) and SNA ( $\beta = .08$ ) were statistically significant. Similarly, the indirect effect from self-report EI to job satisfaction through job performance ( $\beta = .04$ ) was statistically significant as well. We repeated the same procedures for all the other models in Figure 1. We found that all indirect paths were statistically significant. As such, all mediation hypotheses (Hypotheses 4, 5, and 6; see Table 2 for specific hypotheses) are supported. The results of mediation examination are shown directly below each figure.

**Publication Bias Analyses.** We performed three different types of publication bias analyses and found no evidence of publication bias inflating reported effect sizes (see supplemental materials for details).

### **Discussion**

Emotion is an integral part of organizational life and is often functional for the organization, and the proper management of emotions can lead to increased job satisfaction (Ashforth & Humphrey, 1995). We presented the first meta-analytic review of the relationship between employee EI and employee job satisfaction and found a positive and significant relationship between all three types of EI and job satisfaction. In addition, EI is also positively related to organizational commitment and negatively related to turnover intentions. Thus, emotionally savvy individuals are not only high-performing (O'Boyle et al., 2011) but are also more satisfied with their jobs.

### **Theoretical Implications**

Although the relationship between EI and job satisfaction is positive and statistically significant, the variation of effect sizes across studies is substantial (according to Hunter and Schmidt's 75% rule and Q statistic) for the relationships between all three types of EI and job satisfaction. We found that the relationship between self-report EI and job satisfaction is higher when emotional labor demand is high. This coincides with Joseph and Newman's (2010) findings, suggesting that when a job involves frequent customer/interpersonal interaction (i.e., high emotional labor demand) it requires employees to use their EI to regulate their emotions. However, emotional labor was not a moderator for either ability EI or mixed EI. This may be because recent research suggests that emotional labor is used in a wide variety of jobs (e.g.,

Humphrey et al., 2015). These mixed findings warrant more research on the EI-emotional labor relationship.

The pattern of results upholds the categorization of EI measures into three streams/types (Ashkanasy & Daus, 2005; O'Boyle et al., 2011). Due to differential relationships with cognitive ability and personality, we found that mixed EI has the highest association with employee job satisfaction ( $\hat{\rho} = .39$ ), self-report EI the next highest ( $\hat{\rho} = .32$ ), and ability EI the lowest relationship with employee job satisfaction ( $\hat{\rho} = .08$ ). These results are consistent with our expectation because ability EI is more cognitively loaded and thus should have the lowest relationship with job satisfaction, because cognitive ability is a weak predictor of job satisfaction (Gonzalez-Mulé et al., 2014). Mixed EI has the largest relationship with other personality traits and should thus have the strongest relationship with job satisfaction because personality is a much better predictor of job satisfaction than cognitive ability (Judge et al., 2002).

Our results indicate that both self-report EI and mixed EI not only display incremental validity above and beyond cognitive ability and the FFM, but that they also show large relative importance (31.3% relative importance for self-report EI and 42.8% relative importance for mixed EI) in the explained variance in job satisfaction. In particular, mixed EI alone impressively accounts for nearly half of the explained variance in job satisfaction compared to cognitive ability (1.5% relative importance) and the FFM (55.7% relative importance for five personality traits as a whole set). We found similar effects for the incremental validity and relative importance of EI with regard to organizational commitment and turnover intentions. These findings are consistent with - and add to prior meta-analytic findings - on how EI contributes relative importance with regard to job performance (O'Boyle et al., 2011).

Our study also explored the theoretical mechanisms through which EI influences job satisfaction. Building on goal setting theory and self-perception theory (Bem, 1967; Locke, 1976), we found that the relationship between EI and job satisfaction is mediated by both state affect and job performance. EI may be a characteristic that causes employees to see both their work performance and their job in a rosy light, one which promotes positive affect. Employees high on EI may then observe their positive affect at work and deduce that they have high job satisfaction. Building on goal setting theory and self-perception theory (Bem, 1967; Locke, 1976), we weaved prior meta-analytic findings on EI – job performance relationships into our mediation model and found that job performance mediates the relationship between EI and job satisfaction. This shows EI's relevance to the goal setting literature and indicates that EI helps employees to reach their performance goals. Employees may then deduce their own level of job satisfaction from their level of job performance. These findings open multiple avenues for future research on EI, goals, and work criteria. Locke and Latham (2002) suggested a set of moderators (e.g., goal importance, goal commitment, and task complexity) and future researchers may consider developing models that include these additional moderators in order to derive a more thorough picture of the interrelationships among EI, goals, and work criteria.

### **Limitations and Future Directions**

First, there were a small number of samples for some of our meta-analytic distributions, which makes the results subject to second-order sampling error. For the same reason, we were not able to analyze some moderators for some types of EI. Therefore, we encourage readers to exercise caution when interpreting our results based on a small number of samples, and we acknowledge that the results based on a small number of samples are preliminary. This partly explains why the results of our moderator analyses are inconsistent across three EI types.

Moderator testing in meta-analysis is a low power test (Steel & Kammeyer-Mueller, 2002). Therefore, if the number of samples across different levels of moderators is small (ability EI distributions in particular), then the results of moderation can hardly be significant, which is why we identified some inconsistencies in our results across three types of EI. We thus encourage readers to interpret the results of moderator analyses based on a small number of samples with caution.

Second, the present meta-analytic review was dominated by the studies using cross-sectional design. Future studies should use longitudinal designs and conduct advanced analyses, such as latent growth modeling (Bliese & Ployhart, 2002), to draw robust causal inferences.

Third, at bivariate level, we found a significant moderator effect of the emotional labor demand of jobs on the relationship between self-report EI and job satisfaction. We suspect that this moderator may also function in our mediation model in such a way that people under high emotional labor demands may have high job satisfaction with high EI through affect or job performance. This moderated mediation model may help us better integrate our variables. However, we cannot use meta-analysis to test this model because moderated mediation models have to be tested based on raw data, whereas ours - like all other meta-analyses - is also based on correlation matrices without raw data. For this reason, we encourage future studies to collect primary data to assess the moderated mediation model described here.

### **Practical Implications**

Job satisfaction, organizational commitment, and turnover intentions are important attitudes related to many critical workplace outcomes, such as job performance, turnover, profits, and psychological well-being. Our investigations provide insights and evidence regarding the importance of employees' EI in determining employees' work attitudes. To produce satisfied and

productive workers, organizations can incorporate EI in employee education, training, and development (Walter et al., 2011).

Job satisfaction is a very important form of employee job attitude in organizations, because job satisfaction is known to improve physical and psychological health outcomes, to be positively related to organizational commitment, organizational citizenship behavior, and task performance, and to be negatively related to turnover intention, turnover, and withdrawal cognitions and behaviors (Schleicher et al., 2011). Importantly, our research findings suggest a low-cost, yet effective, way to staff an organization with satisfied employees, which is to hire emotionally intelligent people. Incorporating a measure of EI during the selection process would help an organization to find satisfied employees because emotionally intelligent employees are more satisfied, according to our research findings. Nonetheless, hiring people high in EI does not mean that organizations are free of their obligations to reduce workplace stress and strain, and to improve overall working conditions. Organizations with good values can increase employees' organizational commitment and reduce turnover intentions (Abbott, White, & Charles, 2005). Equally importantly, organizations that are perceived to support their employees have employees who are more committed (Loi, Hang-Yue, & Foley, 2006).

Although ability EI tests did not show incremental validity, they may still have considerable practical importance. Their objective nature means that they are not susceptible to test takers' self-serving biases, so they may be useful when hiring new employees, and also for giving feedback to current employees who are resistant to advice from their peers (O'Boyle et al., 2011; Walter et al., 2011). For practitioners who care little about the overlap between self-report and mixed EI and other psychological constructs, our results suggest that one should consider utilizing self-report/peer report EI measures, because the validity of both self-report EI and



mixed EI in predicting job satisfaction are much larger than that of ability EI. We also recommend the use of mixed EI as a shorthand alternative to a lengthy battery of a few traditional personnel tests, because mixed EI captures a compound of different constructs and demonstrates reasonable criterion-related validity. Because self-report measures and mixed measures show incremental validity over cognitive ability and personality measures, organizations that have lengthy batteries of such measures can still increase their ability to predict job satisfaction, organizational commitment, and turnover intentions by incorporating self-report and/or mixed EI measures.

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Table 1

## Psychometric Meta-Analysis Results

	<i>k</i>	<i>N</i>	$\bar{r}_o$	<i>SD<sub>r</sub></i>	$\hat{\rho}$	<i>SD<sub>p</sub></i>	Var <sub>art</sub> %	Corrected 95% CI	Corrected 80% CR	Q	Significant Difference
<b>x. Ability EI – Job Satisfaction</b>	<b>13</b>	<b>1,927</b>	<b>.07</b>	<b>.12</b>	<b>.08</b>	<b>.10</b>	<b>49</b>	<b>.01 to .15</b>	<b>-.05 to .20</b>	<b>27.90**</b>	<b>y, z</b>
Emotional Labor											
a. High	5	609	.10	.16	.13	.15	32	.06 to .20	-.07 to .33	17.08**	—
b. Low	4	496	.07	.12	.09	.10	53	.03 to .14	-.04 to .21	7.64 <sup>†</sup>	—
Ability EI - State Positive Affect	2	373	-.06	.11	-.07	.09	45	-.18 to .05	-.19 to .05	4.39*	
Ability EI - State Negative Affect	2	373	-.32	.06	-.39	.00	100	-.42 to -.35	-.39 to -.39	1.63	
<b>y. Self-report EI – Job Satisfaction</b>	<b>66</b>	<b>20,116</b>	<b>.28</b>	<b>.11</b>	<b>.32</b>	<b>.11</b>	<b>24</b>	<b>.29 to .35</b>	<b>.18 to .47</b>	<b>350.62***</b>	<b>x, z<sup>†</sup></b>
Emotional Labor											
a. High	34	11,516	.31	.09	.35	.08	33	.32 to .39	.25 to .46	108.81***	b
b. Low	10	2,497	.17	.13	.21	.14	24	.16 to .26	.04 to .38	48.25***	a
<b>Self-report EI – Organizational Commitment</b>	<b>30</b>	<b>7,675</b>	<b>.36</b>	<b>.17</b>	<b>.43</b>	<b>.17</b>	<b>13</b>	<b>.38 to .48</b>	<b>.22 to .64</b>	<b>259.53***</b>	
<b>Self-report EI – Turnover Intentions</b>	<b>17</b>	<b>5,004</b>	<b>-.28</b>	<b>.21</b>	<b>-.33</b>	<b>.25</b>	<b>6</b>	<b>-.40 to -.25</b>	<b>-.64 to -.01</b>	<b>323.77***</b>	
Self-report EI – State Positive Affect	3	889	.42	.11	.47	.11	20	.40 to .54	.33 to .60	15.79***	
Self-report EI – State Negative Affect	3	889	-.36	.17	-.42	.18	10	-.51 to -.32	-.64 to -.19	42.58***	
<b>z. Mixed EI - Job Satisfaction</b>	<b>41</b>	<b>7,076</b>	<b>.33</b>	<b>.23</b>	<b>.39</b>	<b>.27</b>	<b>8</b>	<b>.31 to .48</b>	<b>.05 to .73</b>	<b>1351.25***</b>	<b>x, y<sup>†</sup></b>
Emotional Labor											
a. High	20	3,727	.33	.12	.39	.12	29	.34 to .44	.23 to .55	77.66***	—
b. Low	14	2,264	.39	.32	.46	.37	4	.33 to .58	-.02 to .93	933.96***	—
<b>Mixed EI - Organizational Commitment</b>	<b>26</b>	<b>3,867</b>	<b>.36</b>	<b>.22</b>	<b>.43</b>	<b>.24</b>	<b>11</b>	<b>.35 to .51</b>	<b>.12 to .74</b>	<b>500.41***</b>	
Mixed EI - State Positive Affect	1	475	.23	.00	.31	.00	NA	.31 to .31	.31 to .31	NA	
Mixed EI - State Negative Affect	1	475	-.18	.00	-.24	.00	NA	-.24 to -.24	-.24 to -.24	NA	

Note: *k* = number of independent samples; *N* = sample size;  $\bar{r}_o$  = uncorrected sample-size-weighted mean correlation; *SD<sub>r</sub>* = sample-size-weighted standard deviation of observed mean correlations;  $\hat{\rho}$  = corrected sample-size-weighted mean correlation; *SD<sub>p</sub>* = sample-size-weighted standard deviation of corrected mean correlations; Var<sub>art</sub>% = percentage of variance in  $\hat{\rho}$  explained by statistical artifacts; Corrected 95% CI = corrected 95% confidence interval; Corrected 80% CR = corrected 80% credibility interval; Q = a statistic used to assess the heterogeneity in effect sizes across studies; Significant Difference = letters in this column correspond to the letters in rows and indicate that effect sizes significantly differ from one another at .05 level. The letters with “<sup>†</sup>” denote the statistical significance at .10 level. The sign “—” suggests there is no significant between-group difference. Z-test is used to evaluate the statistical significance of between-group difference in effect sizes. EI = emotional intelligence.

<sup>†</sup>*p* < .10

\**p* < .05

\*\**p* < .01

\*\*\**p* < .001

Table 2

## Summary of Results for All Hypotheses

<b>Hypotheses</b>	<b>Results</b>
Hypothesis 1: EI should positively relate to job satisfaction and organizational commitment; and EI should negatively relate to turnover intentions.	Supported.
Hypothesis 2: EI should contribute incremental validity and relative importance in the presence of the FFM and cognitive ability when predicting job satisfaction, organizational commitment, and turnover intentions.	Supported for self-report EI and mixed EI, but not for ability EI.
Hypothesis 3: Mixed EI will show the strongest relationship with job satisfaction, self-report EI the next strongest, and ability EI the weakest relationship with job satisfaction.	Supported.
Hypothesis 4: SPA mediates the relationship between EI and job satisfaction.	Supported.
Hypothesis 5: SNA mediates the relationship between EI and job satisfaction.	Supported.
Hypothesis 6: Job performance mediates the relationship between EI and job satisfaction.	Supported.
Hypothesis 7: Emotional labor demand moderates the relationship between EI and job satisfaction such that the relationship becomes stronger when emotional labor demand is high.	Supported only for self-report EI.

Table 3

Hierarchical Multiple Regression and Relative Weight Analyses for All Three Streams of EI in Predicting JS, OC, and TI

DV = JS	Model 1			Model 2			Model 3			Model 4		
	$\beta$	RW	RW%	$\beta$	RW	RW%	$\beta$	RW	RW%	$\beta$	RW	RW%
Cognitive ability	.07***	.003	2.0%	.06***	.003	1.7%	.06***	.003	1.4%	.07***	.003	1.5%
Neuroticism	-.18***	.046	30.3%	-.18***	.046	30.0%	-.14***	.036	19.7%	-.07***	.031	14.8%
Extraversion	.25***	.051	33.5%	.25***	.051	33.3%	.22***	.043	23.2%	.16***	.036	17.2%
Openness	-.16***	.007	4.8%	-.16***	.007	4.9%	-.19***	.011	5.7%	-.21***	.014	6.6%
Agreeableness	.00	.009	5.9%	-.00	.008	5.6%	-.00	.008	4.1%	-.03*	.007	3.4%
Conscientiousness	.14***	.036	23.4%	.14***	.035	23.2%	.09***	.027	14.6%	.11***	.028	13.7%
Ability EI				.02	.002	1.3%						
Self-report EI							.21***	.058	31.3%			
Mixed EI										.32***	.089	42.8%
$R^2$	.15***			.15***			.18***			.21***		
$\Delta R^2$				.00			.03***			.06***		
Harmonic mean $N$	6,681			5,589			6,011			6,541		
DV = OC	Model 1			Model 2			Model 3					
	$\beta$	RW	RW%	$\beta$	RW	RW%	$\beta$	RW	RW%	$\beta$	RW	RW%
Cognitive ability	-.15***	.020	11.7%	-.16***	.022	8.5%	-.14***	.020	8.1%			
Neuroticism	.01	.011	6.4%	.08***	.009	3.3%	.14***	.011	4.7%			
Extraversion	.18***	.046	26.8%	.13***	.035	13.7%	.07***	.031	12.6%			
Openness	.10***	.018	10.7%	.04**	.013	5.0%	.03*	.013	5.3%			
Agreeableness	.10***	.025	14.8%	.09***	.022	8.5%	.06***	.020	8.2%			
Conscientiousness	.21***	.050	29.6%	.13***	.036	14.1%	.17***	.042	16.9%			
Self-report EI				.35***	.121	46.9%						
Mixed EI							.38***	.108	44.2%			
$R^2$	.17***			.26***			.25***					
$\Delta R^2$				.09***			.08***					
Harmonic mean $N$	4,022			4,107			4,323					



DV = TI	Model 1			Model 2		
	$\beta$	RW	RW%	$\beta$	RW	RW%
Cognitive ability	.06***	.004	5.9%	.07***	.005	3.4%
Neuroticism	.20***	.037	56.6%	.14***	.027	19.4%
Extraversion	-.06**	.005	7.3%	-.01	.004	2.6%
Openness	.07***	.002	3.4%	.12***	.006	4.5%
Agreeableness	-.03	.007	10.1%	-.02	.006	3.9%
Conscientiousness	-.04 <sup>†</sup>	.011	16.7%	.04 <sup>†</sup>	.007	5.2%
Self-report EI				-.32***	.086	60.9%
$R^2$	.07***			.14***		
$\Delta R^2$				.08***		
Harmonic mean $N$	3,633			3,761		

*Note:*  $\beta$  = standardized regression weights; DV = dependent variable; EI = emotional intelligence; JS = job satisfaction; OC = organizational commitment; TI = turnover intentions; Harmonic mean  $N$  = harmonic mean sample size; RW = relative weight; RW% = percent of relative weight (computed by dividing individual relative weight by the sum of individual relative weight and multiplying by 100);  $R^2$  = multiple correlations;  $\Delta R^2$  = incremental change in  $R^2$ . It is noted from Table S11(a) that at bivariate level, openness is not significantly related to job satisfaction ( $\hat{\beta} = .02$ ) and agreeableness is significantly and positively related to job satisfaction ( $\hat{\beta} = .17$ ). However, as demonstrated in Table 3, Model 1 shows that openness is significantly and negatively related to job satisfaction ( $\beta = -.16$ ), whereas agreeableness is not significantly related to job satisfaction ( $\beta = .00$ ). Our results are consistent with Judge, Heller, and Mount's (2002) meta-analytic findings, which also showed some inconsistencies between bivariate and multivariate results of openness and agreeableness. According to Judge et al. (2002), openness is described as a "double-edged sword" that may prompt individuals to sense both the good and the bad more deeply. Although agreeable individuals should experience higher job satisfaction due to their motivation to achieve interpersonal intimacy, it may only be a great predictor of job satisfaction in social occupations where trait agreeableness is more relevant.

<sup>†</sup> $p < .10$

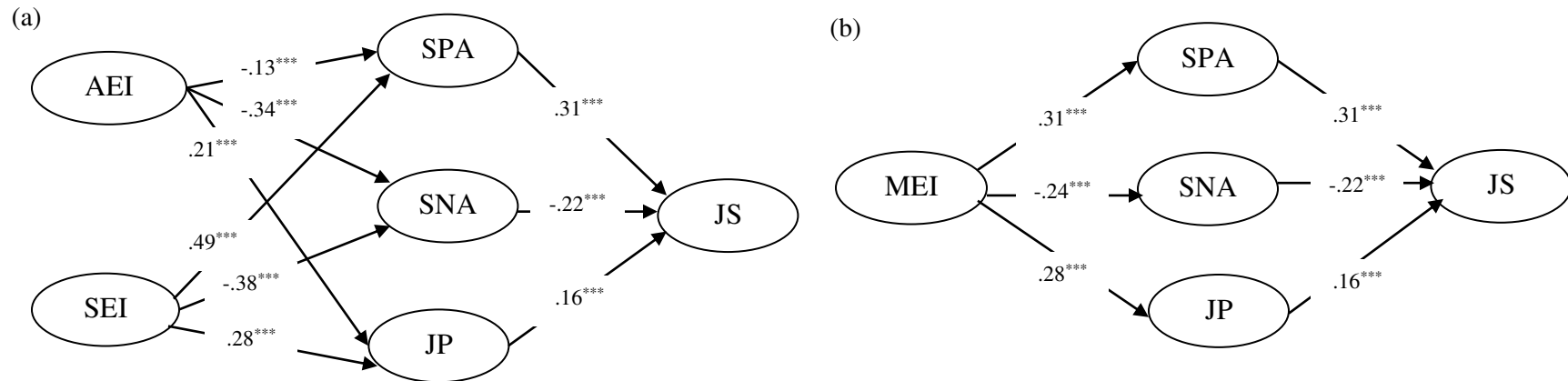
\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

Figure 1

## Path Models of the Mediating Roles of State Affect and Job Performance in the Relationship between EI and Job Satisfaction



AEI: Mediation effect of SPA  $\rightarrow -.128[.026] \times .311[.029] = -.04^{***}$   
 AEI: Sobel Test: -4.47; Aroian test = -4.46; Goodman test = -4.49  
 AEI: Mediation effect of SNA  $\rightarrow -.345[.025] \times -.222[.028] = .08^{***}$   
 AEI: Sobel Test: 6.87; Aroian test = 6.86; Goodman test = 6.89  
 AEI: Mediation effect of JP  $\rightarrow .207[.028] \times .155[.027] = .03^{***}$   
 AEI: Sobel Test: 4.53; Aroian test = 4.51; Goodman test = 4.56  
 SEI: Mediation effect of SPA  $\rightarrow .485[.026] \times .311[.029] = .15^{***}$   
 SEI: Sobel Test: 9.30; Aroian test = 9.29; Goodman test = 9.31  
 SEI: Mediation effect of SNA  $\rightarrow -.379[.025] \times -.222[.028] = .08^{***}$   
 SEI: Sobel Test: 7.03; Aroian test = 7.01; Goodman test = 7.04  
 SEI: Mediation effect of JP  $\rightarrow .275[.028] \times .155[.027] = .04^{***}$   
 SEI: Sobel Test: 4.96; Aroian test = 4.94; Goodman test = 4.98

Mediation effect of SPA  $\rightarrow .310[.026] \times .311[.026] = .10^{***}$   
 Sobel Test: 8.44; Aroian test = 8.43; Goodman test = 8.46  
 Mediation effect of SNA  $\rightarrow -.240[.026] \times -.222[.025] = .05^{***}$   
 Sobel Test: 6.40; Aroian test = 6.38; Goodman test = 6.42  
 Mediation effect of JP  $\rightarrow .280[.026] \times .155[.025] = .04^{***}$   
 Sobel Test: 5.37; Aroian test = 5.36; Goodman test = 5.39

*Note:* Standardized path coefficients are reported. Standard errors are reported in brackets. AEI = Ability EI; SEI = self-report EI; MEI = Mixed EI; JS = job satisfaction; SPA = state positive affect; SNA = state negative affect; JP = job performance. Figure 1 (a) corresponds to Model 4 under Test 1 in Table S14. Figure 1 (b) corresponds to Model 2 under Test 2 in Table S14. Fit indices for each model were reported in Table S14. We omitted covariance for clarity of reporting.

\*\*\*  $p < .001$