

Emotional Intelligence in Organizations

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Abstract

Emotional intelligence (EI) is a set of abilities that pertain to emotions and emotional information. EI has attracted considerable attention among organizational scholars, and research has clarified the definition of EI and illuminated its role in organizations. Here, I define EI and describe the abilities that constitute it. I evaluate two approaches to measuring EI: the performance-based and self-report approaches. I review the findings about how EI is associated with work criteria, organizing the findings according to three overarching models: the validity generalization, situation-specific, and moderator models. The support for the latter two models suggests that the organizational context and employee dispositions should be considered in order to fully explain how EI relates to criteria. I identify controversies in this area, describe how findings address some controversies, and propose future research to address those that remain. I conclude by listing best practices for future research on the role of EI in organizations.

INTRODUCTION

Steve Jobs's biographer, Walter Isaacson, attributed some of Jobs's success in leading Apple to develop many of the most popular and creative technology products on the market to his abilities to identify, analyze, and control emotions. Jobs "could size people up, understand their inner thoughts, cajole them, intimidate them, target their deepest vulnerabilities, and delight them at will. He knew, intuitively, how to create products that pleased, interfaces that were friendly, and marketing messages that were enticing" (Isaacson 2011). This quote suggests that it was not intelligence in the traditional sense that differentiated Jobs from other leaders in his industry. Instead, Jobs understood better than his competitors how people felt when using different products, and he leveraged this understanding to design computers and phones that appealed more to customers.

Research on emotional intelligence (EI) investigates whether a set of abilities about emotions and emotional information—such as the abilities that Jobs seemingly deployed—enhances our prediction and understanding of the outcomes of organization members, such as their job performance and their effectiveness as leaders. Research on EI in organizations started after the publication of seminal theoretical articles by Salovey & Mayer (1990, Mayer & Salovey 1997) and popular books by Goleman (1995, 1998). There are an increasing number of studies that illuminate the role of EI. In this article, I review these studies and provide a road map for future research on EI in organizations. Specifically, I review definitions of EI, approaches to measuring EI, and findings about how EI is associated with work criteria. I describe controversies in this area and identify future research that would advance our understanding of the role of EI in organizations. I conclude by listing best practices for research on EI that emerge from this review.

DEFINITION OF EMOTIONAL INTELLIGENCE

In the article in which they introduced EI to the academic literature, Salovey & Mayer (1990, p. 189) defined EI as "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions." They later revised and extended their definition, proposing that EI consists of "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer & Salovey 1997, p. 5). A more recent review defined EI as "the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought" (Mayer et al. 2008, p. 507). These definitions all construe EI as a set of abilities concerned with emotions and emotional information.

To further understand the meaning of EI, it is critical to define its constituent components—intelligence and emotion—and explain how these concepts are integrated to form the construct of EI (Côté 2010, Matthews et al. 2002, Mayer & Salovey 1997; also see Pedhazur & Schmelkin 1991). Defining the constituent components is important because "few EI researchers are willing to be specific about what they want to measure" (Conte 2005, p. 437).

Definition of Intelligence

Intelligence is typically defined as ability or capacity. Wechsler (1958, p. 7) defined intelligence as "the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his [or her] environment." A report by a task force of the American Psychological Association indicated that intelligence is the "ability to understand complex ideas,

to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, [and] to overcome obstacles by taking thought” (Neisser et al. 1996, p. 77). Organizational psychologists have defined intelligence similarly. Schmidt & Hunter (2000, p. 3) defined it as the “ability to grasp and reason correctly with abstractions (concepts) and solve problems.” Locke (2005, p. 425) wrote that “the concept of intelligence refers to one’s ability to form and grasp concepts, especially higher-level or more abstract concepts.”

In turn, abilities consist of “the possible variations over individuals in the liminal [threshold] levels of task difficulty...at which, on any given occasion in which all conditions appear to be favorable, individuals perform successfully on a defined class of tasks” (Carroll 1993, p. 8). Thus, abilities refer to variations in how well individuals can accomplish a set of tasks in a particular domain, in conditions that are favorable for accomplishing these tasks. Consistent with this notion, Sackett et al. (1988) noted that researchers commonly use the terms typical and maximum performance to refer to personality and ability measures, respectively. These authors defined maximum performance as the performance that individuals exhibit when they have accepted instructions to maximize effort for a period of time and are aware that they are being evaluated (Sackett et al. 1988). Thus, intelligence factors (e.g., verbal intelligence, perceptual intelligence) and the abilities that they subsume reflect variations in the performance that individuals exhibit when they exert their highest effort to solve problems in specific domains, under evaluative conditions.

Definition of Emotion

Emotions are brief, organized sets of responses (including physiological changes, expressive behaviors, action tendencies, and subjective experiences) that optimize how individuals address the challenges and exploit the opportunities that arise in the events that they encounter (Lazarus 1991, Levenson 1994). Distinct emotions, such as anger, embarrassment, and happiness, represent qualitatively different sets of responses that evolved to address unique challenges and exploit unique opportunities. For instance, anger helps to address the challenge of being treated unfairly by motivating individuals to redress unfairness (Lazarus 1991). Embarrassment helps to address the challenge of having violated a social norm by motivating individuals to communicate to conspecifics an awareness of having violated a norm (for example, by blushing; Keltner & Buswell 1997).

Integrating Intelligence and Emotion

Combining the definitions of its constituent components, EI is a set of abilities that pertain to the organized sets of responses to events that constitute emotions (Mayer & Salovey 1997, Salovey & Mayer 1990). Each of the abilities that constitute EI represents variation in how well individuals can solve a set of problems that involve emotions. As such, EI differs from other intelligence factors, such as verbal intelligence and perceptual intelligence, which focus on cognitive processes (Côté & Miners 2006, Mayer et al. 2008).

One implication of integrating intelligence and emotion is that it must be possible to determine “at least some ‘right’ answers as to feelings” (Mayer & Salovey 1997, p. 9) and then rely on these correct answers to distinguish individuals with higher EI from those with lower EI (Matthews et al. 2004). Although correct answers may vary depending on the cultural context, it must be possible to determine correct answers within a given cultural context (Matthews et al. 2004, Mayer & Salovey 1997, Morgan et al. 2010). In the literature on intelligence, individuals are correct if they know a piece of information that others ignore (Carroll 1993). Such variation in knowledge has

been termed crystallized intelligence (Cattell 1943). Similarly, emotionally intelligent individuals are correct to the extent that they know information about emotions that others ignore (Matthews et al. 2004). For example, emotionally intelligent leaders may know that followers could get angry if they are treated unfairly, whereas leaders with lower EI may ignore this information.

The literature on intelligence also proposes that individuals are correct if they can determine the appropriate solution to a problem and determine that solution quickly, whereas others produce inappropriate solutions or take a relatively long time to produce a solution (Carroll 1993). Researchers have referred to such variations in correct and fast problem solving as fluid intelligence (Cattell 1943). Similarly, emotionally intelligent individuals are correct to the extent that they produce appropriate solutions to problems about emotions and produce those solutions quickly (Matthews et al. 2004). For example, emotionally intelligent service agents may accurately identify the emotions that customers express subtly, whereas those with lower EI may misread these subtle displays of emotions or take a relatively long time to identify these displays.

The Jingle Fallacy and Trait Models of Emotional Intelligence

The jingle fallacy is “the belief that, because different things are called by the same name, they are the same thing” (Pedhazur & Schmelkin 1991, p. 74). This fallacy is prevalent in research on EI because some conceptualizations of EI lump together constructs that meet the definitions of its constituent components—intelligence and emotion—with other constructs that do not meet the definition of the components (Roberts et al. 2008).

In particular, trait models of EI define it as “a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies” (Petrides et al. 2007, p. 26), including assertiveness, happiness, self-esteem, and self-perceived ability to manage stress (see Tett et al. 2005 for a review of these approaches). Mixed models of EI, such as the model presented by Goleman (1995, 1998), combine self-perceptions and dispositions with emotional abilities. Several dimensions of trait/mixed models are outside of the realm of intelligence because they refer to typical behavior rather than maximum performance (Côté 2010, Elfenbein & Eisenkraft 2010, Zuckerman et al. 1976).

Consider self-esteem, a trait included in several trait/mixed models that represents the tendency to perceive oneself to be a worthy and valuable individual (Crocker & Park 2004). Self-esteem does not reflect maximum performance on problems in a given domain. When individuals perceive that they are worthy and valuable, they have not necessarily accepted instructions to maximize effort. Thus, definitionally, self-esteem is outside of the realm of intelligence. Self-esteem, along with all dimensions of trait models and many dimensions of mixed models, should be excluded from models of EI. Researchers commit the jingle fallacy when they assign the label EI to trait/mixed models (Roberts et al. 2008). Instead, it is more accurate to refer to these models as lists of healthy individual differences. To avoid committing the jingle fallacy, researchers should instead select ability models of EI.

DIMENSIONS OF EMOTIONAL INTELLIGENCE

In this section, I describe the main branches of EI and the abilities that each branch subsumes that have received the most attention. Mayer & Salovey (1997) developed the most prevalent model of EI—a hierarchical four-branch model that includes perceiving/expressing, using, understanding, and regulating emotions—based on a review of the literature. The branches are ordered from more basic psychological processes that emerge earlier in development to more complex processes that emerge later (Joseph & Newman 2010, Mayer & Salovey 1997). This

model has served as the basis for the most research, and it accommodates other typologies of emotional abilities, such as the facets of emotion knowledge described by Izard and colleagues (Fine et al. 2003, Morgan et al. 2010). In **Table 1**, I list the branches of EI, the abilities that each branch subsumes, sample measures of these abilities, and sample findings about each branch.

The Perceiving and Expressing Emotions Branch

This branch concerns how accurately and how fast individuals can express emotions and identify, detect, and decipher aspects of emotional experiences and emotional displays. I describe four specific abilities contained in this branch.

The ability to identify the emotions that others feel. This ability refers to how accurately individuals can identify which emotion(s) others feel (e.g., whether others feel anger, sadness, etc.), typically by processing nonverbal information such as facial expressions and vocal tones (Buck et al. 1980, Elfenbein & Eisenkraft 2010, Jenness 1932). It has also been called empathic accuracy (Côté et al. 2011b), emotion recognition ability (Rubin et al. 2005), and nonverbal receiving ability (Buck et al. 1980). This ability can help individuals garner important information about others' attitudes, goals, and intentions, which are communicated through emotional expressions (Van Kleef 2009). For example, this ability can help employees perceive the emotions of their managers, which may reveal information about managers' unstated beliefs about the employees' performance and, in turn, help employees adjust their behavior.

A facet of this ability that may be particularly important in organizations is emotional aperture, which refers to how accurately individuals can identify the distribution of emotions that are felt by a group of people (Sanchez-Burks & Huy 2009). For instance, when making an important announcement, some leaders may be able to ascertain the proportion of followers who react positively to the announcement, whereas other leaders may be less able to identify the distribution of reactions to the announcement.

The ability to detect the authenticity of others' emotional expressions. This ability refers to how accurately individuals can distinguish emotional expressions that are authentic from expressions that are fake (Groth et al. 2009, Mayer & Salovey 1997). It can help individuals determine if they can rely on others' expressions to infer their attitudes, goals, and intentions or if they should make such inferences cautiously. For instance, service agents can use this ability to distinguish authentic displays of happiness (Duchenne smiles) from fake displays and, in turn, determine if customers are satisfied with the service that they are providing (Groth et al. 2009).

The ability to appraise one's own emotions. This ability concerns how accurately individuals can decipher the emotions that they themselves are feeling (Salovey & Mayer 1990). When individuals have emotional reactions to events, some are more likely to realize that they are experiencing emotions and to identify which emotions they are feeling. For instance, some employees may realize when they are becoming angry at a decision made by the boss, whereas others may not realize that they are having this reaction. One facet of this ability is introceptive awareness, defined as the ability to identify physiological changes that are tied to emotions (e.g., heartbeats; Feldman Barrett et al. 2004).

The ability to express one's own emotions clearly to others. This ability concerns how clearly individuals can display their own emotions (Buck et al. 1980, Salovey & Mayer 1990, Zuckerman et al. 1976). It has also been called nonverbal sending accuracy (Buck et al. 1980). Individuals

Table 1 Branches of emotional intelligence

Branch of emotional intelligence	Abilities contained in this branch	Sample measures	Sample findings
The perceiving and expressing emotions branch	The ability to identify the emotions that others feel (also called emotion recognition ability, empathic accuracy, and nonverbal receiving accuracy)	The Multimodal Emotion Recognition Test (MERT; Bänziger et al. 2009) The empathic accuracy paradigm (Levenson & Ruef 1992) The faces task of the MSCEIT (Mayer et al. 2002)	Extraverted leaders with higher levels of empathic accuracy receive higher ratings of transformational leadership from their subordinates, relative to extraverted leaders with lower empathic accuracy (Rubin et al. 2005).
	The ability to detect the authenticity of others' emotional expressions	Correspondence between targets' emotion regulation strategies and employees' detection of these strategies (Groth et al. 2009)	Customers who are better able to detect the authenticity of the emotions expressed by service agents rate the service provided by agents who fake emotions lower than customers with lower levels of this ability do (Groth et al. 2009).
	The ability to appraise one's own emotions	The heartbeat detection task (Feldman Barrett et al. 2004)	Individuals with higher ability to detect their heartbeats report feeling more high- and low-activation emotions than individuals with lower levels of this ability do (Feldman Barrett et al. 2004).
	The ability to express one's own emotions clearly to others (also called nonverbal sending accuracy)	The posed sending paradigm (Zuckerman et al. 1976)	Individuals with a higher ability to express their own emotions clearly to others have more empathic accuracy than individuals with lower levels of this ability do (Elfenbein & Eisenkraft 2010).
The using emotions branch	Knowledge of the systematic effects of emotions on cognitive processes	The facilitation task of the MSCEIT (Mayer et al. 2002)	The association between positive affect and creative behavior is more pronounced among employees with higher levels of the using emotions branch of EI than among those with lower levels of this branch (Parke & Seo 2013).
	The ability to harness emotions to guide cognitive activities and solve problems	The sensations task of the MSCEIT (Mayer et al. 2002)	Same as above.

(Continued)

Table 1 (Continued)

Branch of emotional intelligence	Abilities contained in this branch	Sample measures	Sample findings
The understanding emotions branch	The ability to comprehend emotion language	Part 4 of the Emotion Matching Task (for children; Morgan et al. 2010)	Children with higher ability to comprehend emotion language have less negative social interactions than children with lower levels of this ability do (Morgan et al. 2010).
	The ability to analyze the cause and effect relations between events and emotions	The Situational Test of Emotional Understanding (STEU; MacCann & Roberts 2008) The changes task of the MSCEIT (Mayer et al. 2002)	Incidental anxiety reduces risk taking on unrelated judgments less among individuals with higher ability to analyze the cause and effect relations between events and emotions, relative to those with lower levels of this ability (Yip & Côté 2013).
	The ability to understand how basic emotions combine to form complex emotions	The blends task of the MSCEIT (Mayer et al. 2002)	Students with higher ability to understand how basic emotions combine to form complex emotions have higher GPAs than students with lower levels of this ability do (Rode et al. 2008).
The regulating emotions branch	The ability to set emotion regulation goals	The preference for useful emotions paradigm (Ford & Tamir 2012, Tamir et al. 2008)	Individuals who prefer useful emotions in a video game involving confrontation perform better in the game, compared with their lower-ability counterparts (Tamir et al. 2008).
	The ability to select emotion regulation strategies (also called emotion regulation knowledge)	The Situational Test of Emotion Management (STEM; MacCann & Roberts 2008) The emotion management and emotional relationships tasks of the MSCEIT (Mayer et al. 2002)	Individuals with higher emotion regulation knowledge exhibit a stronger connection between moral identity and prosocial behavior than individuals with less emotion regulation knowledge do (Côté et al. 2011a, study 1).
	The ability to implement emotion regulation strategies	The instructed emotion regulation paradigm (Bonanno et al. 2004)	Individuals with higher ability to modify emotional expressive behavior on demand report higher life satisfaction and higher income than individuals with lower levels of this ability do (Côté et al. 2010a).

express emotions clearly when observers can identify the emotion(s) that expressers wish to display to them. Emotionally intelligent leaders who are satisfied with work and who wish to express positive emotions to followers may show these emotions clearly, whereas leaders with lower EI may express the same emotions less clearly, so that followers perceive other emotions instead.

The Using Emotions Branch

This branch concerns how well individuals capitalize on the systematic effects of emotions on cognitive activities such as creativity and risk taking (Salovey & Mayer 1990). I describe two abilities that may constitute this branch.

Knowledge of the systematic effects of emotions on cognitive processes. This ability concerns how much individuals know about how emotions systematically guide cognitive activities (Fine et al. 2003, Morgan et al. 2010, Salovey & Mayer 1990). For instance, there is a robust association between feeling anxiety and avoiding risk, because anxiety signals that the current environment is uncertain and avoiding risk is preferable under conditions of uncertainty (Johnson & Tversky 1983). Emotionally intelligent traders might know that they will be risk averse when they are anxious, whereas traders with lower EI may not be aware of this effect (Yip & Côté 2013).

The ability to harness emotions to guide cognitive activities and solve problems. This ability concerns how effectively individuals can “generate emotions ‘on demand’” (Mayer & Salovey 1997, p. 12) to tailor their cognitive activities to the situation. For example, individuals may “imagine negative outcomes as a method of motivating performance” (Salovey & Mayer 1990, p. 200).

Potential conceptual overlap between the using emotions branch and other branches. Definitionally, these abilities overlap with abilities to regulate emotion. Knowledge of how emotions influence cognitive processes is involved in setting appropriate emotion regulation goals, an ability from the regulating emotions branch described below. Further, harnessing emotions to facilitate cognitive activities involves creating emotions that are appropriate for the situation, another ability described below (Joseph & Newman 2010). This conceptual overlap is supported by factor-analytic research that shows that the using emotions branch loads on one or more of the other branches of EI (Palmer et al. 2005, Roberts et al. 2006). Because of its lack of theoretical and empirical distinctiveness, this branch is sometimes excluded from investigations of EI (e.g., Joseph & Newman 2010, Matthews et al. 2006a).

The Understanding Emotions Branch

This branch concerns how accurately individuals reason about various aspects of emotions, such as when they attach labels to emotions and identify connections between events and emotional reactions. I describe three abilities within this branch.

The ability to comprehend emotion language. This ability refers to how accurately individuals recognize relations between words and emotions and attach verbal labels to their and others' emotions (Fine et al. 2003, Mayer & Salovey 1997). Some individuals possess a rich vocabulary about emotions that allows them to attach correct words to emotional reactions. For instance, when individuals with a high degree of this ability perceive that they are embarrassed, they are more likely to describe their feeling using that term, whereas their counterparts may use other terms.

The ability to analyze the cause and effect relations between events and emotions. This ability reflects how accurately individuals can identify which past events elicited current emotions and how accurately they can predict future emotions based on current events (Fine et al. 2003, MacCann & Roberts 2008, Morgan et al. 2010, Yip & Côté 2013). Mayer & Salovey (1997, p. 11) described this ability as the “ability to interpret the meanings that emotions convey regarding relationships, such as that sadness often accompanies a loss.” For instance, leaders with a high degree of this ability may correctly predict that unfair procedures will arouse anger in employees, whereas other leaders may ignore the emotional consequences of unfair procedures.

The ability to understand how basic emotions combine to form complex emotions. This ability concerns how well individuals can identify the complex emotional experiences that result from combinations of more basic emotions. Mayer & Salovey (1997, p. 13) described how individuals learn “to recognize the existence of complex, contradictory emotions” and to acknowledge such combinations of emotions. Equipped with this ability, individuals can recognize that feeling happiness and sadness while reliving a previous event will combine into a complex emotion, nostalgia (Sedikides et al. 2008), whereas others are less likely to understand that happiness and sadness form a more complex emotional experience.

The Regulating Emotions Branch

This branch concerns how well individuals can increase, maintain, or decrease the magnitude or duration of their or others’ emotions (Gross 2013). I focus on three abilities that constitute this branch.

The ability to set emotion regulation goals. This ability refers to how well individuals determine if their current emotions are optimal in the current circumstances, and set goals for modifying their emotions if necessary (Mayer & Salovey 1997). Individuals set goals for changing their emotions if they are not optimal, and some individuals set more appropriate goals for the circumstances than others (Côté et al. 2006, Sheppes et al. 2013). For instance, emotionally intelligent individuals are more likely to know that anger is useful, and happiness is not useful, when confronting another person (Ford & Tamir 2012). A sports coach with a high level of this ability may set a goal of increasing the level of energy in the team, a goal that is appropriate because higher energy can improve team performance. A coach with a lower level of this ability may instead set a goal of eliciting another emotion that is less conducive to high team performance.

The ability to select emotion regulation strategies. This ability concerns the extent to which individuals select regulation strategies that are likely to create desired emotions. It has also been called emotion regulation knowledge (Côté et al. 2011a). Evidence suggests that emotion regulation strategies are more effective in certain situations and less effective in others (Sheppes et al. 2013). Some individuals are better at matching emotion regulation strategies to the situations that they encounter, flexibly employing these strategies depending on the situation (Feldman Barrett & Gross 2001). For instance, a sports coach with a higher degree of this ability can determine which of a number of strategies (e.g., a fiery speech by the coach, letting the team captain address the team) will best create high energy in the team, whereas a coach with a lower degree of this ability may select strategies that are ineffective in creating energy.

The ability to implement emotion regulation strategies. This ability concerns how effectively individuals deploy regulation strategies to produce the desired effect on emotions (Côté et al.

2010a, Sheppes et al. 2013). Individuals may choose appropriate regulation strategies, but they may not necessarily implement these strategies effectively (Côté et al. 2006). A sports coach who correctly identifies that a fiery speech is the best strategy to create energy may deliver that speech well if the coach has a high level of this ability to implement emotion regulation strategies but deliver it poorly if the coach has a low level of this ability.

MEASUREMENT OF EMOTIONAL INTELLIGENCE

In this section, I evaluate the validity of the two most prevalent approaches to measuring EI: performance-based and self-report measurements. I do not review the peer-report approach because few studies have used it. In evaluating validity, I adopt the notion that “a test is valid for measuring an attribute if and only if (a) the attribute exists and (b) variations in the attribute causally produce variations in the outcomes of the measurement procedure” (Borsboom et al. 2004, p. 1061).

Performance-Based Measurement of Emotional Intelligence

This approach consists of determining how well respondents perform tasks and solve problems about emotions. Performance-based measurement is common in intelligence research because it features the conditions for maximum performance that are inherent to intelligence constructs. That is, when completing performance-based measures, respondents accept instructions to maximize effort for a period of time and are aware that they are being evaluated (Sackett et al. 1988).

Performance-based measures have been developed to assess several of the emotional abilities described above, as shown in **Table 1**. The most popular performance-based measure is the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al. 2002). The MSCEIT measures all four branches and also provides a total EI score. There are two scoring systems for the MSCEIT, one based on expert researchers on emotions and another based on the aggregated responses of a large sample drawn from the general population (see Mayer et al. 2001 for the rationale for the consensus-scoring system). Advantages of the MSCEIT include its coverage of all four branches from Mayer & Salovey’s (1997) model and evidence for its validity and reliability from past studies (e.g., Côté & Miners 2006, Farh et al. 2012). The MSCEIT has limitations, however. Researchers have noted that the experts may not have been carefully selected, because the selection criterion consisted solely of membership in a professional society on research on emotions, the International Society for Research on Emotion (ISRE). Researchers have also criticized the theoretical rationale for relying on general consensus to determine the correct answers to the problems (Conte 2005, Matthews et al. 2002). In addition, the MSCEIT is difficult to access because it is copyrighted, and researchers must make arrangements with a psychological assessment company to use it.

Several other measures are available that overcome the limitations of the MSCEIT. In particular, several measures of empathic accuracy (from the perceiving and expressing emotions branch) present respondents with video recordings, photographs, and/or audio recordings in which targets are expressing various emotions (e.g., Bänziger et al. 2009, Levenson & Ruef 1992; see Bänziger et al. 2012 for a review of these measures). The expressions in many of these measures were checked against findings on how emotions are communicated in the face, voice, and body. The number of expressions that respondents identify correctly reflects their levels of empathic accuracy.

The Situational Test of Emotional Understanding (STEU; MacCann & Roberts 2008) assesses the ability to analyze the cause and effect relations between events and emotions (from the

understanding emotions branch). For each of a series of scenarios, respondents choose, among five emotions that are presented, the emotion that is most likely to be generated by the scenario. Individuals who select the emotions that are most likely to be generated, according to research on how appraisals of events are connected to emotions, are inferred to have higher levels of this ability.

In addition, researchers have assessed the ability to implement emotion regulation strategies by instructing respondents to employ specific strategies and then measuring objectively how well they deploy these strategies. In one version of this paradigm, respondents are instructed to control their emotional expressions either by showing as much emotion as possible so that observers really know what they feel or by hiding as much emotion as possible so that observers cannot tell what they feel (Bonanno et al. 2004, Côté et al. 2010a). Effectiveness at implementing the strategies is assessed objectively by coding facial muscle movements.

Self-Report Measurement of Emotional Intelligence

In this approach, respondents indicate their agreement with self-descriptive statements about their abilities such as “I know what other people are feeling just by looking at them” (Schutte et al. 1998, p. 172) and “I am quite capable of controlling my own emotions” (Law et al. 2004, p. 496).

The self-report approach is based on the assumptions that individuals can accurately estimate their maximum performance on problems about emotions and are willing to report it on questionnaires. There is evidence, however, that the self-serving bias manifests particularly strongly when people estimate their abilities, because people are motivated to develop favorable perceptions of their intelligence (Dunning et al. 2004). In one investigation, nearly 80% of people reported that they were among the 50% most emotionally intelligent people in the population, an impossible figure that reveals that people generally overestimate their EI (Brackett et al. 2006). In addition, findings suggest that individuals with lower EI overestimate their EI because they lack the expertise necessary to evaluate how accurately they solve problems about emotions in the first place, an instance of a phenomenon called the Dunning-Kruger effect (Sheldon et al. 2013).

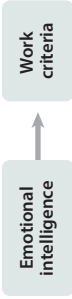
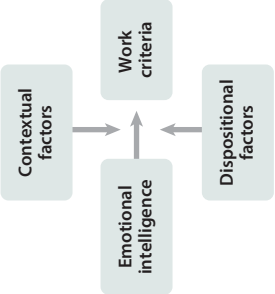
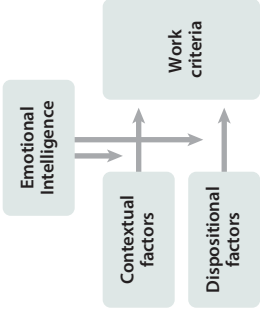
Further, evidence suggests that individuals may fake their responses on self-report questionnaires even if they know their actual levels of EI (Donovan et al. 2003). For example, job applicants rate their own EI higher than job incumbents, suggesting that individuals fake their responses to questions about their abilities when they have an incentive to do so (Lievens et al. 2011). By contrast, participants could not increase their scores on performance-based measures of EI under any instructions (Day & Carroll 2008), as one cannot pretend to know the correct solutions to problems that one ignores.

These findings cast doubt on the assumptions that individuals are able and willing to report their maximum performance on problems about emotions, assumptions that are critical to the validity of the self-report approach. The limitations of this approach are supported by meta-analytic evidence that self-report measures of EI are more strongly correlated with measures of personality traits, which also capture self-perceptions, than with performance-based measures of EI (Joseph & Newman 2010). In sum, researchers wishing to capture actual EI should avoid the self-report measurement approach (Mayer et al. 2008).

CORRELATES OF EMOTIONAL INTELLIGENCE

I now review the findings concerning three overarching models of how EI is associated with work criteria (Lievens & Chan 2010). The first overarching model is a validity generalization model that proposes bivariate associations between EI and criteria that are consistent across organizational contexts and employee dispositions. The second overarching model is a situation-specific

Table 2 Overarching models of associations between emotional intelligence (EI) and work criteria

	Validity generalization model	Situation-specific model	Moderator model
Description of the model	EI confers to organization members a variety of benefits that enhance work criteria across contexts and employee dispositions.	The magnitude and sign of associations between EI and work criteria vary depending on contextual and dispositional factors.	The magnitude and sign of associations between contextual and dispositional factors and work criteria vary depending on EI.
Visual illustration of the model			
Sample findings related to the model	<p>Empathic accuracy is associated with job performance (Elfenbein et al. 2007).</p> <p>Emotional intelligence is associated with leadership emergence (Côté et al. 2010b).</p>	<p>Emotional intelligence is associated with job performance among managers with higher managerial work demands, but not among managers with lower demands (Farh et al. 2012).</p> <p>Empathic accuracy is associated with transformational leadership among extraverted leaders, but not among introverted leaders (Rubin et al. 2005).</p>	<p>Emotional labor is associated with reduced work engagement among service employees with lower empathic accuracy, but not among employees with higher empathic accuracy (Bechtoldt et al. 2011).</p> <p>Moral identity is associated with prosocial behavior among individuals with higher emotion regulation knowledge, but not among individuals with lower emotion regulation knowledge (Côté et al. 2011a).</p>

model that contends that the associations between EI and criteria depend on aspects of the organizational context or employee dispositions. The third overarching model is a moderator model that posits that EI enhances some effects and attenuates other effects of contextual and dispositional factors on work criteria. In Table 2, I describe each model, provide visual illustrations, and list sample studies that correspond to each model.

The Validity Generalization Model of Emotional Intelligence and Work Criteria

Validity generalization occurs when the association between a predictor and a criterion (i.e., validity) is constant across jobs and employment settings (Schmidt & Hunter 1977). The validity generalization model proposes that EI confers a variety of benefits to organization members that generally translate into more favorable work criteria. This model predicts that EI will exhibit bivariate associations with criteria across organizational contexts and employee dispositions. It also predicts that EI will exhibit incremental validity over competing predictors, particularly other individual differences, because the benefits of EI are unique.

The majority of the studies on EI have examined this model, and three meta-analyses of the association between EI and performance, covering 8–10 studies each (total $N = 700$ – $1,368$), have been conducted. Two meta-analyses of EI and job performance revealed correlations of .16 (Joseph & Newman 2010) and .21 (O’Boyle et al. 2011) (the correlations were slightly higher when corrections were applied). Another meta-analysis that covered studies of performance in employment and academic settings and other unspecific facets of performance found a correlation of .17 (Van Rooy & Viswesvaran 2004). EI exhibited little incremental validity over cognitive intelligence and personality in all three meta-analyses. Another meta-analysis of 18 studies (total $N = 1232$) of the association between empathic accuracy and job performance found a correlation of .20 (Elfenbein et al. 2007). Incremental validity was not examined.

Turning to leadership criteria, a meta-analysis of the association between EI and transformational leadership found (a) a correlation of .24 in 10 studies (total $N = 1,066$) where focal participants assessed their own transformational leadership and (b) a correlation of .05 in 4 studies (total $N = 441$) where subordinates assessed transformational leadership (Harms & Credé 2010). Incremental validity was not examined. Two studies found correlations of .25 and .20 between EI and leadership emergence, as well as incremental validity over cognitive intelligence, the Big Five traits of personality, and self-monitoring (Côté et al. 2010b).

A few studies examined the role of EI in negotiations. In one study of a hypothetical integrative negotiation between a seller and a buyer, the empathic accuracy of participants assigned to the role of the seller was associated with the value created in the dyad and marginally associated with the value claimed by the seller, when the levels of neuroticism of both negotiators were controlled for (Elfenbein et al. 2007). Other analyses revealed that the average overall EI of the negotiators within each dyad predicted the value created in the dyad (holding several traits of personality and demographic characteristics constant), but negotiators with the highest overall EI score in each dyad claimed less value than their opponents (Foo et al. 2004). In another investigation, participants were more satisfied with the negotiation if their counterparts had higher levels of understanding emotions, when the value claimed and positive affectivity were held constant, but EI was not related to the value claimed by participants (Mueller & Curhan 2006).

Some studies examined whether EI is associated with judgments and decisions. In one study, participants higher on the understanding emotions branch of EI were less likely to fall prey to the ease of recall bias, an instance of the availability heuristic whereby individuals believe that events that are more easily recalled occur more frequently than events that are difficult to recall ($r = -.15$;

Buontempo & Brockner 2008). This association was mediated by the self-reported tendency to introspectively focus on one's own thoughts and feelings.

Other studies examined whether emotionally intelligent individuals make better affective forecasts—that is, predictions about how they will feel if certain events occur in the future—because they know how events cause emotional reactions (Mayer & Salovey 1997). In a series of studies, emotionally intelligent participants, compared with those with lower EI, made predictions that were closer to the emotions that they actually felt when these events occurred, when demographic factors (Dunn et al. 2007) and cognitive intelligence (Hoerger et al. 2012) were controlled for. The associations ranged from small to large in size.

In sum, the findings reveal that EI exhibits small correlations with several work criteria, but not with transformational leadership. EI exhibits incremental validity for some criteria, including leadership emergence, value created and value claimed in negotiations, and affective forecasting, but not for job performance. Conclusions that EI explains unique variance in these criteria are tentative, however, because most studies controlled for only a subset of the competing individual difference predictors.

The Situation-Specific Model of Emotional Intelligence and Work Criteria

Situational specificity is an alternative to validity generalization whereby the association between a predictor and a criterion varies depending on the job or employment setting (Schmidt & Hunter 1977). Applied to EI, the situation-specific model predicts that EI explains unique variance in criteria when the organizational context or employee dispositions facilitate its deployment (Lievens & Chan 2010, Wong & Law 2002). This model also predicts that EI exhibits smaller or no associations with criteria in the absence of opportunities to deploy it. In addition, there may be conditions in which deploying EI is harmful to individuals and/or organizations (Dasborough & Ashkanasy 2002, Salovey & Mayer 1990). Although the situation-specific model has received less attention than the validity generalization model, some researchers have argued that it may more adequately describe the effects of EI. For instance, Murphy (2006b, p. 351) wrote that “it is almost certain that EI is more important in some settings than in others.” This suggestion is consistent with the notion that “a measure may have incremental validity in some assessment applications but not others” (Hunsley & Meyer 2003, p. 446).

Job characteristics as moderators of associations between emotional intelligence and criteria.

Research has examined whether EI predicts criteria more strongly in emotionally demanding jobs (Wong & Law 2002). In the aforementioned meta-analysis by Joseph & Newman (2010), the association between EI and job performance was stronger in jobs with higher emotional labor demands (i.e., jobs that require employees to exert efforts to meet rules for which emotions to display; $r = .22$ across four studies with total $N = 220$) than in jobs with lower emotional labor demands ($r = .00$ across three studies with total $N = 226$). In addition, in higher emotional labor demand jobs, EI exhibited incremental validity ($\Delta R^2 = .02$) over cognitive intelligence and the Big Five traits of personality. Similarly, in a more recent study, EI was positively associated with supervisor-rated job performance in jobs with higher managerial work demands (i.e., jobs that require managing diverse aspects of work such as different types of employees and business functions), but not in jobs with lower managerial work demands (Farh et al. 2012). Cognitive intelligence, the Big Five traits of personality, and several demographic variables and job characteristics were controlled for. A similar set of findings revealed that medical students higher on the regulating emotions branch performed better in courses on communication and interpersonal sensitivity with patients (when the Big Five traits of personality and cognitive

intelligence were controlled for), but not in courses that covered technical material such as anatomy (Libbrecht et al. 2014).

Dispositions as moderators of associations between emotional intelligence and criteria.

Employees with certain dispositions may have more opportunities to deploy EI and, in turn, exhibit stronger associations between EI and criteria than other employees with different dispositions. In a sample of leaders in a global biotechnology company, empathic accuracy was positively associated with the subordinate-rated transformational leadership of extraverted leaders, but not introverted leaders, presumably because extraverts engage in more social interactions that provide opportunities to deploy this ability (Rubin et al. 2005). The number of subordinates and several personality traits (positive and negative affectivity and agreeableness) were controlled for. In two related studies, empathic accuracy exhibited stronger positive associations with the task coordination behavior and leadership emergence of extraverted students, but not introverted students, in study groups (Walter et al. 2012). Cognitive intelligence, the other Big Five traits of personality, and gender were controlled for.

EI may also exhibit stronger associations with job performance when high performance is not already achieved via other abilities or dispositions. Côté & Miners (2006) developed a compensatory model that proposes that EI exhibits a weaker association with job performance among employees with higher cognitive intelligence, because these employees are already performing at a high level (Schmidt & Hunter 1998). Consistent with this model, in one study, EI was more strongly associated with task performance and organizational citizenship behavior directed at the organization among employees with lower cognitive intelligence, relative to employees with higher cognitive intelligence. The Big Five traits of personality, leader-member exchange, and several demographic variables were controlled for. In a related study in a telephone service center (Doucet & Oldham 2006), empathic accuracy was more strongly associated with job performance among employees with lower agreeableness and lower cognitive intelligence (when age and education were controlled for), possibly because employees who possessed one or both of these characteristics already attained high performance via these other means.

Another hypothesis predicts that EI is more strongly associated with criteria among individuals who are motivated than among those who lack motivation to deploy their abilities. Consistent with this notion, Rode et al. (2007) found that EI was associated with the performance of students with higher levels of conscientiousness (a proxy for motivation), but not the performance of students with lower levels of this trait, holding cognitive intelligence, the other Big Five traits of personality, and some demographic variables constant.

The sensitivity of the information as a moderator of associations between emotional intelligence and criteria.

Ickes & Simpson (1997) proposed that higher empathic accuracy is not always associated with more favorable outcomes. Interpersonal encounters are fraught with “danger zones” where the private feelings of others are potentially threatening. Although it is informative to identify others’ emotions in these “danger zones,” the informational value is countervailed by dissatisfaction with the relationship. Supporting this notion, higher empathic accuracy was associated with lower perceived closeness between spouses after discussions of threatening issues (such as the attractiveness of other potential partners), but not after nonthreatening discussions (Simpson et al. 2003).

Similar patterns of associations between EI and criteria could occur in “danger zones” in organizations. This possibility is supported by the finding from Joseph & Newman’s (2010) meta-analysis that the 95% confidence interval for the correlation between EI and job performance in jobs with lower emotional labor demands ranged from $-.12$ to $.14$. Where could “danger zones”

be found in organizations? Antonakis (2003) theorized that it may be better for leaders to be immune to their subordinates' emotions, because perceiving these emotions may distract leaders and prevent them from performing their core duties. "Danger zones" could also be found in teams that are prone to conflict. For example, in one study, work team members who could identify fear that their teammates expressed through their voices, which their teammates presumably did not intend to communicate, received lower peer ratings of work effectiveness from their teammates, when several demographic variables were controlled for (Elfenbein & Ambady 2002).

In sum, the findings pertaining to the situation-specific model suggest that EI is associated with job performance over competing predictors in jobs that are emotionally demanding, but not in jobs that pose lesser emotional demands. This conclusion is more tentative for other criteria, because fewer studies have been conducted and the available studies included few control variables. At least one facet of EI, empathic accuracy, may relate negatively to favorable outcomes when it is deployed in "danger zones," where discovering the private feelings of others is threatening.

The Moderator Model of Emotional Intelligence and Work Criteria

In this third overarching model, the levels of EI of organization members shape how they express their dispositions and how they react to organizational contexts. This model predicts that EI serves as a moderator variable that enhances or attenuates the effects of various contextual or dispositional factors on work criteria. This model also predicts that the moderating effect of EI is unique and will occur over competing moderators. For instance, Kilduff et al. (2010) proposed that EI facilitates the effects of self-serving goals that are prevalent in competitive organizational contexts on employees' advancement in organizations. In addition, researchers have proposed that stressors such as job insecurity may cause less unfavorable reactions among employees with higher EI (Jordan et al. 2002, Salovey et al. 1999). The moderator model also accommodates the possibility that some organizational and dispositional factors have more harmful effects among employees with higher EI than among those with lower EI.

Emotional intelligence as a moderator of associations between goals and goal-related behavior. One series of studies examined whether emotion regulation knowledge facilitates the achievement of both prosocial and self-serving goals (Côté et al. 2011a). Emotion regulation knowledge may facilitate the achievement of any goal by helping individuals generate the particular emotions that are conducive to achieving the goal. Consistent with this notion, the associations between a prosocial orientation and prosocial behavior in a social dilemma game (when demographic variables were controlled for; study 1) and between Machiavellianism and deviant behavior in an organization (when demographic variables and cognitive intelligence were controlled for; study 2) were stronger among individuals with higher emotion regulation knowledge than among those with less of that knowledge.

Emotional intelligence as a moderator of associations between challenging work situations and work criteria. Some studies examined whether EI acts as a buffer between composites of job stressors and stress reactions. In one study, the association between stressful life events (such as job loss) and depressive symptoms was weaker among individuals with higher ability to implement a cognitive reappraisal strategy to regulate emotions than among their lower-ability counterparts (Troy et al. 2010). In related studies, the associations between stressors and depressive symptoms (study 1) and somatic symptoms (study 2) were weaker among individuals with higher empathic accuracy, relative to those with lower empathic accuracy (Robinson et al. 2012). In a laboratory experiment with student participants, however, EI did not moderate the effects of three types of

task stressors (i.e., vigilance, workload, and evaluation) on immediate stress reactions (Matthews et al. 2006a).

Other studies examined whether specific stressors are less strongly related to unfavorable outcomes among employees with higher EI. One investigation tested whether empathic accuracy attenuates negative associations between emotional labor (i.e., efforts to express organizationally desired emotions during customer service interactions; Hochschild 1983) and work engagement (Bechtoldt et al. 2011). Consistent with this reasoning, nurses and police officers with higher empathic accuracy exhibited weaker negative associations between two forms of emotional labor (deep and surface acting) and work engagement measured four weeks later, relative to their counterparts with lower empathic accuracy, presumably because knowing how customers felt helped them perform emotional labor more effectively.

Another investigation examined whether the association between developmental job experiences and turnover intentions was weaker among new managers with higher EI, who may better identify that they are experiencing emotional reactions caused by these experiences and, in turn, more easily ameliorate these reactions (Dong et al. 2013). Consistent with this notion, negative emotional reactions to developmental job experiences were associated with higher turnover intentions among managers with lower EI, but not among managers with higher EI, when several demographic variables and personality traits (i.e., positive and negative affectivity, the extent of variability in emotions over time) were controlled for. A related study found that the negative association between job complexity (i.e., the degree to which a job is difficult and mentally demanding) and positive affect was weaker among employees with higher emotion regulation knowledge than among those with lower emotion regulation knowledge (Parke & Seo 2013).

Grant (2013) theorized that employees should voice concerns with more sensitivity if they can select appropriate strategies to regulate emotions in these challenging interpersonal encounters. As expected, in one study, the association between voice and supervisor-rated job performance was more positive among employees higher in emotion regulation knowledge, relative to those with lower emotion regulation knowledge, with the trait of extraversion held constant (Grant 2013).

EI may also help individuals to detect whether others' emotions are authentic and, in turn, to respond appropriately during interpersonal encounters. In one study, customers with higher ability to detect inauthenticity gave lower service evaluations to service agents who faked emotions (and higher service evaluations to service agents who showed authentic emotions), compared with their lower-ability counterparts (Groth et al. 2009). Positive and negative affectivity and type of service (moderate- versus high-contact) were held constant.

Finally, EI may help individuals avoid allowing incidental emotions that are unrelated to the decisions that they are making influence these decisions. In two studies, the effect of incidental anxiety (versus neutral emotion) on risk taking was weaker in participants with higher (rather than lower) ability to analyze the cause and effect relations between events and emotions, when cognitive intelligence was controlled for (Yip & Côté 2013). This ability presumably helped individuals to identify that their incidental anxiety was unrelated to the decisions at hand and, in turn, to reduce the effects of anxiety on these decisions. An earlier study, however, did not find that EI moderated the association between a mood induction (positive versus negative versus neutral) and the unrelated judgments of a hypothetical target person (Ciarrochi et al. 2000).

In sum, the findings provide some support for a moderator model that proposes that EI enhances or attenuates the effects of contextual and dispositional variables on criteria. The findings suggest that EI enhances associations between goals and goal-directed behavior and attenuates associations between stressors and unfavorable reactions. It is premature to definitively conclude that these moderating effects are unique to EI, however, because most of the studies failed to control for other individual differences, particularly cognitive intelligence.

Summary of the Evidence About the Associations Between Emotional Intelligence and Work Criteria

The preceding review reveals some support for each overarching account of how EI is associated with work criteria. The evidence for the situation-specific and moderator accounts, however, suggests that contextual and dispositional variables may need to be considered to fully understand how EI relates to criteria. It may not be meaningful—and it could even be misleading—to interpret bivariate correlations between EI and criteria without at the same time considering the organizational context and employee dispositions (Lievens & Chan 2010).

One may wrongly conclude that EI is irrelevant on the basis of small bivariate correlations with criteria for two reasons. First, substantive positive associations between EI and criteria in conditions that facilitate its deployment and substantive negative associations in “danger zones” may cancel each other out (cf. Tett & Burnett 2003). For instance, in an aforementioned investigation, the bivariate correlation between EI and job performance was not significant (Farh et al. 2012). It would be wrong to conclude that EI was irrelevant, however, because the association between EI and job performance was significant when managerial work demands were high.

Second, EI may determine the range and boundary conditions of substantive associations between organizational and dispositional factors and criteria, even if it does not exhibit bivariate correlations with the criteria (Lievens & Chan 2010). For example, in another aforementioned investigation, the bivariate correlation between emotion regulation knowledge and deviant behavior at work was not significant. Again, it would be wrong to conclude that EI is irrelevant, because emotion regulation knowledge determined the boundary condition for the association between Machiavellianism and deviant behavior; this association was observed only among employees with higher emotion regulation knowledge (Côté et al. 2011a).

CONTROVERSIES IN RESEARCH ON EMOTIONAL INTELLIGENCE AND FUTURE RESEARCH DIRECTIONS

In this section, I identify the most important controversies in this area of research (see also Cherniss 2010), note how current theory and evidence address some of the controversies, and identify issues and questions to address the remaining controversies. I summarize this material in Table 3.

Controversy Concerning (Dis)agreement About the Meaning of Emotional Intelligence

Several researchers have drawn attention to the confusion about what EI represents. The meaning of EI becomes clear, however, when its constituent components are defined precisely. EI is a set of abilities that represent how well individuals perform tasks and solve problems about emotions, which are organized, functional responses to the events that individuals encounter. Equipped with this definition, researchers can identify whether a construct falls inside or outside of the realm of EI.

Researchers can advance our understanding of the meaning of EI by describing additional branches as well as abilities within these branches. The four-branch model of EI is not a definitive model, because it was based on a review of the literature available at the time (Mayer & Salovey 1997). The structure of EI can be refined as new discoveries about emotions are made. For instance, based on recent findings about the social effects of emotions (Van Kleef 2009), Côté & Hideg (2011) proposed a new dimension of EI, the ability to influence others via emotional displays. Another research opportunity consists of modifying existing branches/abilities. For instance, above, I reviewed evidence that the using emotions branch overlaps conceptually with other

Table 3 Controversies in emotional intelligence research and future research directions

Controversy and sample statements	How current theory and evidence help resolve the controversy	Future research needed to further resolve the controversy
<p>There is no consensus about the meaning of EI. “Definitions of EI are constantly changing” (Locke 2005, p. 426). “One reason for controversy over EI is that there is no clear consensus about what EI really means” (Murphy & Sideman 2006, p. 39). “There exist no explicit criteria for deciding which qualities belong to EI and which do not” (Matthews et al. 2006b, p. 7).</p>	<p>Defining the constituent components of EI—emotion and intelligence—provides a precise definition of EI that clarifies which constructs are inside and outside of the realm of EI.</p>	<p>Identify other emotional abilities to complete the list of facets of EI. Clarify/modify the definitions of existing branches (e.g., the using emotions branch).</p>
<p>There is overlap between EI and extant constructs. “Evidence that EI is a viable construct independent of IQ or personality factors is sparse” (Antonakis 2003, p. 355). “The relationship between emotional intelligence and other concepts, including general intelligence, social skills, and personality, is not adequately understood” (Murphy 2006b, p. 346).</p>	<p>Defining the constituent components of EI clarifies how it differs conceptually from other intelligence factors and personality traits. The meta-analytic correlations between EI and other individual differences (Joseph & Newman 2010) are small according to Cohen’s (1988) standards, supporting its distinctiveness.</p>	<p>Identify the position of EI within existing models of individual differences and intelligence.</p>
<p>The measures of EI lack validity. “The low relationships between different EI measures raise serious questions about whether they are all actually measuring the same construct” (Conte 2005, p. 437). “The concept of overall EI (averaged across the three construct-method pairings) is of limited conceptual value due to inconsistent and low correlations among some types of EI measures” (Joseph & Newman 2010, p. 65).</p>	<p>Self-reports of intelligence measure a fundamentally different construct than actual intelligence that is concerned with self-perceptions, and thus do not correlate highly with performance-based measures of intelligence. There is theoretical and empirical support for the validity of several performance-based measures of EI.</p>	<p>Develop measures of some emotional abilities that are currently lacking (e.g., the ability to set emotion regulation goals). Develop comprehensive measures of all branches of EI that overcome the limitations of the MSCEIT.</p>

(Continued)

Table 3 (Continued)

Controversy and sample statements	How current theory and evidence help resolve the controversy	Future research needed to further resolve the controversy
<p>The effect sizes for EI are small.</p> <p>“The most widely publicized claims about the relationship between emotional intelligence and success...in the workplace...are not supported and, in some important cases, are almost certainly untrue” (Murphy 2006b, p. 346).</p> <p>“There is not a single study reported that indicates that EI has nontrivial incremental validity for a socially important outcome variable after controlling for intelligence and personality” (Brody 2004, p. 237).</p> <p>“Contrary to the ‘big idea’ motivating much emotional intelligence research, these findings indicate that emotional intelligence actually does little to explain how well people successfully navigate their lives” (Ybarra et al. 2013, p. 4).</p>	<p>The effect sizes for associations between EI and criteria vary depending on the organizational context and employee dispositions. Meta-analytic effect sizes for EI in conditions that are conducive to its deployment are comparable to effect sizes for other individual differences. EI enhances the effects of some and attenuates the effects of other contextual and dispositional factors on criteria, effects that may or may not produce bivariate correlations between EI and criteria.</p>	<p>Develop broad theory about how EI relates to work criteria in combination with contextual and dispositional factors.</p> <p>Develop theory about when higher EI is associated with unfavorable outcomes.</p>
<p>There is little evidence that EI can be “trained.”</p> <p>“Because many applications of the EI concept involve attempts to develop EI..., further investigation of the stability, and alternatively, the ‘trainability’ of EI, is needed” (Conte 2005, p. 438).</p>	<p>There is some suggestive yet indirect evidence that people can increase their emotional abilities (but also evidence that this potential may be limited).</p>	<p>Design and test interventions to enhance EI.</p> <p>Develop theory about when interventions are more and less likely to have the desired impact.</p> <p>Develop theory about how to overcome potential barriers to enhancing EI.</p>
<p>There are variations across cultures in the role of EI and the nature of emotionally intelligent behavior.</p> <p>“Another difficulty with consensus scoring, prevalent in performance-based measures of EI, is that people are living in increasingly multicultural societies with a variety of social norms, so normative values to be applied vary from setting to setting” (Matthews et al. 2004, p. 186).</p>	<p>Evidence that ethnic differences in EI test scores are partly explained by cultural values of interdependence and independence (Moon 2011) suggests that the nature of emotionally intelligent behavior varies by culture.</p>	<p>Develop theory about how the associations between EI and work criteria vary depending on cultural factors.</p> <p>Identify how the correct answers to emotional problems vary by culture, and incorporate the results in scoring systems for measures of EI.</p>

branches. Researchers could revise the description of the using emotions branch to address this overlap.

Controversy Concerning How Emotional Intelligence Relates to Extant Constructs

Some researchers have questioned whether EI is a new construct that differs from other individual differences. For instance, as reported in a paper titled “Emotional Intelligence: Not Much More Than *g* and Personality,” Schulte et al. (2004) found that cognitive intelligence, the Big Five traits of personality, and gender accounted for 41% of the variance in EI scores, inviting questions about what new information EI reveals about individuals.

The most definitive results about how EI relates to other constructs are meta-analytic results, because single studies are prone to sampling bias. The meta-analytic correlations between EI (defined as abilities and assessed with performance-based measures) and other individual differences are equal to or lower than .25 (Joseph & Newman 2010), which is small according to Cohen’s (1988) standards. The correlations in Schulte et al.’s (2004) study are at the higher end of the range of correlations found in the meta-analysis. In addition, the meta-analytic correlations between EI and other individual differences are similar to the correlations among these individual differences (Joseph & Newman 2010). This suggests that EI does not lack unique content.

Researchers can advance our understanding of the relation between EI and extant constructs by investigating the position of EI within broad models of individual differences, and models of intelligence in particular (Mayer et al. 2008). Researchers have proposed that EI represents the specialization of general intelligence in the domain of emotions, and cognitive intelligence represents the specialization of general intelligence in the domain of cognition (cf. Côté & Miners 2006). Supporting this logic, in one factor-analytic study, EI emerged as a different factor from the crystallized and fluid facets of cognitive intelligence (MacCann 2010). Future research can extend this initial evidence to better situate EI in models of individual differences, particularly in models of intelligence.

Controversy About the Validity of Measures of Emotional Intelligence

Researchers have described limitations of several currently available measures of EI (Conte 2005, Matthews et al. 2002). This controversy can be addressed in part by concluding, on the basis of the evidence, that the self-report measurement approach is not valid to measure EI (or any intelligence factor). By contrast, measures that capture maximum performance on sets of problems—whether maximum performance consists of maximum knowledge, level, or speed—provide valid indicators of EI. When adopting the performance-based approach, researchers should describe the processes by which variations in the constructs cause variations in the measures (Borsboom et al. 2004, Côté 2010) and why higher scores on the measures represent higher levels of ability. To do so, researchers should indicate how the correct responses to the problems have been determined and whether potential cultural variation in the correct answers has been considered.

Researchers can advance the field by creating measures of some abilities that are lacking. For example, researchers could create measures of the ability to set appropriate emotion regulation goals by extending existing paradigms for capturing preferences for emotions in particular situations (e.g., Ford & Tamir 2012). There is also a need for more comprehensive measures that cover the entire domain of EI, given the limitations of the MSCEIT (Mayer et al. 2002) listed above.

Controversy About the Effect Sizes for Emotional Intelligence

Another controversy concerns whether and how well EI predicts work criteria. As described above, EI may or may not show bivariate associations with criteria, depending on how EI interacts

with contextual and dispositional factors. Interpreting bivariate correlations between EI and criteria may produce misleading conclusions about the importance of EI. What about the effect sizes in conditions that facilitate the deployment of EI? One way of evaluating the importance of EI involves comparing the meta-analytic effect sizes of EI with the effect sizes of cognitive intelligence and traits of personality (Joseph & Newman 2010). In jobs with higher emotional labor demands, EI ($r = .24$) is more strongly associated with job performance than each of the Big Five traits of personality is (r s ranging from .09 for agreeableness and extraversion to .20 for conscientiousness) and is surpassed only by cognitive intelligence ($r = .37$). Thus, in conditions that are favorable to its deployment, EI explains a proportion of variance that is comparable to the variance explained by other individual differences common in organizational psychology.

There are several ways in which researchers can advance knowledge of associations between EI and work criteria. Although evidence supports interactive models whereby EI interacts with contextual and dispositional factors, the existing studies have been piecemeal, focusing on various dispositions and contextual factors. The field would benefit from broad theories of how EI interacts with these factors that could integrate the current findings. In developing new theories, researchers should specify whether theories concern overall EI or only certain branches or abilities (Elfenbein 2007). In addition, researchers should explore the conditions in which EI may be harmful (Côté et al. 2011a, Dasborough & Ashkanasy 2002, Kilduff et al. 2010). For instance, identifying when it may hurt leaders to perceive their subordinates' emotions (Antonakis 2003) is an intriguing research question.

Controversy Concerning Whether Emotional Intelligence Can Be Taught

There is considerable interest in developing EI. Companies are interested in how their managers may employ EI to become better leaders and how their human resource departments may use EI to better select and train employees (Schmit 2006). Many employees are interested in discovering and enhancing their "EQ." Several researchers, however, have noted that the evidence that EI can be enhanced is scant (Landy 2005, Matthews et al. 2002, Schmit 2006), and some have questioned whether it is possible to develop EI (Hogan & Stokes 2006). This skepticism is fueled by findings that other intelligence factors are highly heritable (heritability coefficients between .4 and .8; Nisbett et al. 2012) and the corresponding belief, prevalent in Western cultures, that intelligence is immutable (Heine et al. 2001).

The definition of EI, however, is agnostic as to whether it can be enhanced. Above, I indicated that intelligence is typically defined as a set of abilities, and abilities reflect variations in how well individuals can solve sets of problems in a given domain. There are no aspects of these definitions that commit intelligence to be either teachable or fixed. Further, the evidence that intelligence is immutable is challenged by (a) arguments that studies overestimate the heritability of intelligence by undersampling lower-class individuals whose IQs more strongly depend on environmental factors (Stoolmiller 1999), (b) comments that heritability coefficients are difficult to interpret because they depend on the variance in genetic and environmental factors in the specific populations studied (Nisbett et al. 2012), (c) evidence that schooling is a potent environmental factor that influences intelligence (Ceci 1991), (d) evidence of large gains in intelligence across generations that cannot be explained by genetic forces (Flynn 1987), and (e) the belief, prevalent in Eastern cultures, that intelligence can be increased with effort (Heine et al. 2001). It thus remains an open question whether intelligence factors, including EI, can be enhanced (Nisbett et al. 2012).

There is some evidence that adults can be trained in EI. There are robust findings from developmental psychology that children acquire more or less EI depending on the behavior of their

parents (Saarni 1999), suggesting that training interventions for adults could be modeled on parental behavior that facilitates the acquisition of EI in children. Some studies show that training can improve the ability to identify various aspects of social encounters in which the protagonists express emotions, such as relative status or kinship between the protagonists, but these studies are not strictly focused on emotions and several lack a control group (see Rosenthal et al. 1979 for a review). Early research showed that individuals improved their empathic accuracy after studying the anatomy of facial expression in textbooks, but it also lacked a control group (Guilford 1929). Exposure to displays of emotions of members of different cultures increases the ability to recognize such displays in the short term, but the longer-term impact of such exposure is unknown (Elfenbein 2006). In addition, there is evidence that interventions increase self- and peer-reported EI, but it remains unclear whether any improvement can be captured with performance-based measures of EI (Kotsou et al. 2011).

Other evidence casts doubt that EI can be increased. Associations between empathic accuracy and biological processes, including testosterone (Ronay & Carney 2013), oxytocin (Bartz et al. 2010), and respiratory sinus arrhythmia (Côté et al. 2011b), suggest limits to the degree to which EI may be modified in adults. In addition, in a series of studies, after receiving their scores on a measure of EI, individuals with lower EI disparaged the accuracy of this feedback and the relevance of EI for their careers and were paradoxically less interested in improving their EI than were those with higher EI (Sheldon et al. 2013). These potential barriers should be considered when designing interventions for enhancing EI.

Researchers can advance knowledge by developing and testing the effectiveness of interventions for increasing EI and, in turn, for modifying the outcomes of organization members, such as their job performance and their effectiveness as leaders. It is possible that interventions to develop EI are more effective among some organization members than others. Therefore, moderators of the effects of training interventions should be examined. Researchers could also investigate how to overcome potential barriers to the effectiveness of interventions, such as the potential rejection of training by those who need it most.

Controversy Concerning Cross-Cultural Variations in Emotional Intelligence

Researchers have noted that research on EI does not sufficiently incorporate culture (Matthews et al. 2004, Moon 2011, Wong et al. 2004). Several questions about cross-cultural similarities and variations in EI await investigation. It is unknown whether the patterns of associations between EI and work criteria that have been found in research in Western cultures hold in other parts of the world. For example, EI may contribute more to work success in collective cultures, because these cultures emphasize social interactions to a greater extent and research has linked EI to high-quality social interactions (Brackett et al. 2006, Lopes et al. 2005). In addition, EI may modify the effects of separate contextual and dispositional factors on work criteria in different cultures. In Eastern cultures, EI may accentuate or reduce the effects of collective experiences, such as changes in work units, more than individual experiences.

Researchers should also consider culture when developing measures. The correct answers to problems about emotions, such as identifying which emotion is caused by a certain event or which emotion is displayed by targets, may vary by culture (Elfenbein et al. 2007, Morgan et al. 2010). In one study, ethnic differences in scores on the MSCEIT, a measure of EI that was developed in North America, were partly explained by cultural values of independence and interdependence (Moon 2011). Specifically, non-Westerners received lower scores on the measure, in part, because they held more interdependent values than Westerners, and the correct answers to the problems were likely rooted in independent values. Researchers can advance the field by examining whether there

is cultural variation in the correct answers to different measures of EI. Further, researchers could develop separate versions of scoring systems to facilitate the use of existing measures of EI in different cultures.

CONCLUSION AND BEST PRACTICES FOR RESEARCH ON EMOTIONAL INTELLIGENCE

EI is a set of abilities that can potentially help individuals navigate challenging organizational contexts and interpersonal encounters. There is progress in understanding the role of EI in organizations owing to more precise definitions, better measures, and more refined models of EI that consider contextual and dispositional factors. Even so, there remain important gaps in our knowledge and controversies about the role of EI in organizations. The theoretical and measurement approaches described in this article suggest best practices for research on EI in organizations, which I list below.

The first set of best practices concerns theory development. Researchers should consider the various potential ways in which EI may relate to work criteria beyond bivariate correlations, including potential associations with criteria in combination with contextual and dispositional factors as well as potential associations with unfavorable outcomes. In doing so, researchers should determine whether theory they develop pertains to the broad construct of EI, a specific branch of EI (e.g., the regulating emotions branch), or a specific emotional ability (e.g., the ability to implement emotion regulation strategies). In addition, it is important to avoid confounding theoretical arguments with considerations of measurement, by first articulating arguments for how and why EI is associated with criteria and stating the hypotheses that emerge from the theory. Only when this step is complete should researchers choose a measure of EI as part of their methodological choices (Pedhazur & Schmelkin 1991).

The second set of best practices concerns methods. In particular, in justifying their choice of measures, researchers would benefit from articulating the processes by which variations in the constructs cause variations in the measures (Borsboom et al. 2004). Authors rarely justify why scores on measures of EI capture the respondents' levels of this construct. Descriptions of how scores on the measures are generated and how the scores should be interpreted are often missing or unclear. In some instances, I have not been able to determine whether a high score on a measure reflected a high level of EI or a low level of EI. This state of affairs can be remedied if authors clearly articulate why a high (or low) score on a measure captures EI (see MacCann & Roberts 2008 for an example of a description of how the items in a measure capture emotional ability).

By following these best practices, researchers can accelerate progress in understanding how abilities that pertain to emotions, such as the abilities to identify and control emotions, may help us explain and predict the outcomes of organization members.

Best Practices for Developing Theory About Emotional Intelligence

1. Select an ability model of EI that is consistent with the definitions of its constituent components—intelligence and emotion—and reject trait/mixed models.
2. Consider the three overarching models of how EI may relate to work criteria: the validity generalization, situation-specific, and moderator models. If EI may relate to criteria in combination with contextual and/or dispositional factors, one of the latter two overarching models is more appropriate.

3. Consider whether there are conditions in which higher EI may relate to unfavorable outcomes. Also, in developing theory about how EI moderates the effects of organizational and dispositional factors, consider whether these factors may have more negative consequences among emotionally intelligent employees.
4. Specify whether theory about EI and work criteria pertains to the broad construct of EI, a specific branch of EI, or a specific emotional ability that constitutes one of the branches.
5. Separate theory development from choices of measurement. Decide how to measure EI only after the theory is fully developed and the hypotheses that emerge from the theory are stated.

Best Practices for Measuring Emotional Intelligence

1. Select performance-based measures of EI, and reject self-report measures.
2. Describe the process by which variations in EI cause variations in the selected measures. In doing so, justify how the correct answers to the problems in the measures were determined.
3. Consider potential cultural variations in the correct answers to problems in measures of EI.
4. Measure the following control variables, which could correlate with both EI and the criteria, to verify that they do not cause spurious associations: cognitive intelligence, the Big Five traits of personality, and demographic factors. Also measure other control variables that are relevant to the specific context and criterion of interest in the study.
5. If the theory focuses on a specific facet of EI, include measures of other facets to verify that they do not exhibit the same associations and, thus, that the findings are specific to the theorized facet of EI. This is not always feasible, however, given the challenges (e.g., time and attention of participants) involved in measuring multiple facets of EI.

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