Predicting Emotionally Competent Behavior: Developing a Model and Predictor Scales

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Abstract

Recently, there has been increased interest in the role emotions play at work. Research on emotional intelligence has shown that emotions impact work behaviors as associated with teamwork, decision-making, and leadership. Often referred to as EQ, these findings have raised debate concerning the nature of EQ, how we can best measure EQ, and the impact of EQ on a variety of work behaviors. In this study, we reconcile competing approaches to provide a more comprehensive EQ model, a process for predicting EQ using personality-based scales, and relationships between these scales and a variety of work outcomes.

Predicting Emotionally Competent Behavior: Developing a Model and Predictor Scales

Throughout most human history, people have expressed the belief that emotions are disruptive and affect our thoughts and behavior in negative ways. Based on the view that emotions undermine our capacity for rational thought, famous philosophers like David Hume and Friedrich Nietzsche have argued that effective functioning requires control over one's emotions. Similarly, Sigmund Freud argued that reason and emotion are inseparable; that reason is necessarily "the slave of passion."

Modern research has validated Hume, Nietzsche, and Freud's claims that emotions are inseparable from reasoning (Bechara, Damasio, & Damasio, 2000) and integral to human functioning (Izard, 1977). However, far from being "acute disturbances" to reason, emotional responses follow logical patterns that may actually help people respond to their environment (Izard, 1977), interact with others (Keltner & Haidt, 1999), and understand and respond to organizational change (Huy, 1999). Thus, emotions can be seen as crucial guides to social interaction (Seo, Barrett, & Bartunek, 2004).

In the business world, emotions influence job and organizational performance (George & Brief, 1996). They impact thinking, decision-making, teamwork, leadership, and other work-related behaviors (Barsade & Gibson, 2007; Brief & Weiss, 2002; Elfenbein, 2007; Weiss & Cropanzano, 1996). The concept of emotional intelligence (often abbreviated as EQ to reflect similarities with IQ) was popularized by Goleman (1995), who helped spark interest in research examining how managing one's emotions can improve job performance ratings and career success (Cherniss, 2010; Joseph & Newman, 2010; Mayer & Salovey, 1997). Furthermore, research suggests that using EQ assessments for selection may improve an organization's sales, employee retention, productivity, and net profits (Cherniss, 1999). In this study, we provide a comprehensive EQ model based on previous research, a process for predicting components of this model using personality-based scales, and relationships between these scales and a variety of work outcomes.

EQ concerns the competencies needed to recognize, process, and manage emotions (Zeidner, Roberts, & Matthews, 2008). Interest in EQ represents a recent incarnation of the broader search for capacities beyond cognitive ability that are important for social effectiveness (e.g.,

Chamorro-Premuzic, 2011; Gardner, 1983; Landy, 2005; Stricker & Rock, 1990; Thorndike, 1920; Wagner, 1987; Weis & Süss, 2005).

The most frequent criticism of EQ concerns its breadth and potential redundancy with other constructs (Mayer, Salovey, & Caruso, 2008), which led Locke (2005) to ask, "what does EQ *not* include?" (p. 428). In contrast, proponents argue EQ is a coherent domain covering a wide array of emotional, social, and personal competencies (e.g., Bar-On, 2004; Chamorro-Premuzic & Furnham, 2010; Cherniss, 2010; Petrides & Furnham, 2003). An examination of the literature, however, uncovers no clear consensus regarding the substance of EQ. Representations of EQ include mental ability-based models (e.g., Mayer & Salovey, 1997), contextually-bound knowledge of rules for appropriate feelings (Denham, 1998; Izard, 2001), and an interplay of emotional, mood, personality, and social orientation (Bar-On, 2004).

Another common criticism concerns the psychometric issues that plague self-report "mixed" models (Roberts, MacCann, Matthews, & Zeidner, 2010). Alternative competing measures and conceptions of EQ tend to be uncorrelated, suggesting that they measure different constructs (Van Rooy & Viswesvaran, 2004; Zeidner et al., 2008).

Our EQ Model

An alternative approach to assessing EQ is to organize the existing models into a single comprehensive model (Cherniss, 2010; Giardini & Frese, 2007; Zeidner et al., 2008). Following other recent EQ competency integrations (Bartram, 2005; Joseph & Newman, 2010; Lievens & Chan, 2010; Scherer, 2007), we conceptualize EQ as a set of distinct but related constructs. Our model attempts to reconcile opposing arguments regarding the assessment of EQ (Lievens & Chan, 2010).

Some critics argue that conceptualizations of emotional competencies (e.g., mixed-model EQ) are based on the same underlying personality dimensions (e.g., Locke, 2005; Murphy & Sideman, 2006) and are therefore not unique. However, this criticism overlooks the incremental validity that EQ measures demonstrate over established personality measures (Chamorro-Premuzic & Furnham, 2010; Cherniss, 2010; Joseph & Newman, 2010; O'Boyle, Humphrey, Pollack, Hawver, & Story, 2010; Zeidner et al., 2008). Also, some EQ advocates (e.g., Cherniss, 2010; Goleman, 1995; Petrides & Furnham, 2003) focus on the multidimensional competencies and argue their versions of EQ are proximal, and sometimes better (Joseph & Newman, 2010) predictors of performance. However, this view makes it difficult to determine how much EQ uniquely contributes to predicting job performance above attitudes and personality measures. To address these concerns, we developed an EQ model containing six components organized in a framework that accounts for similarities across a number of commonly studied EQ models. Further, we propose that EQ mediates relationships between personality and job performance.

Our model (Figure 1) incorporates commonly studied EQ components such as those from the four-branch model of EQ (Salovey & Mayer, 1997), its progenies (Law, Wong, & Song, 2004; Palmer & Stough, 2001; Tett, Fox, & Wang, 2005), and other affective and social competence frameworks from the psychological literature (Halberstadt, Denham, & Dunsmore, 2001; McFall, 1982; Riggio, Riggio, Salinas, & Cole, 2003; Scherer, 2007). This model helps reconcile

competing conceptual (Cherniss, 2010; Zeidner et al., 2008), psychometric (Joseph & Newman, 2010; O'Boyle et al., 2010), and developmental perspectives (Halberstadt et al., 2001; Scherer, 2007). Our model (a) ties together diverse views into a single domain based on ability and emotional competence literatures, (b) helps articulate why personality and cognitive ability correlate with self-perceptions of emotional capabilities and objective scores on ability-based EQ tests – because both serve as antecedents to EQ, and (c) it maintains that individual differences facilitate the acquisition and expression of EQ over time.

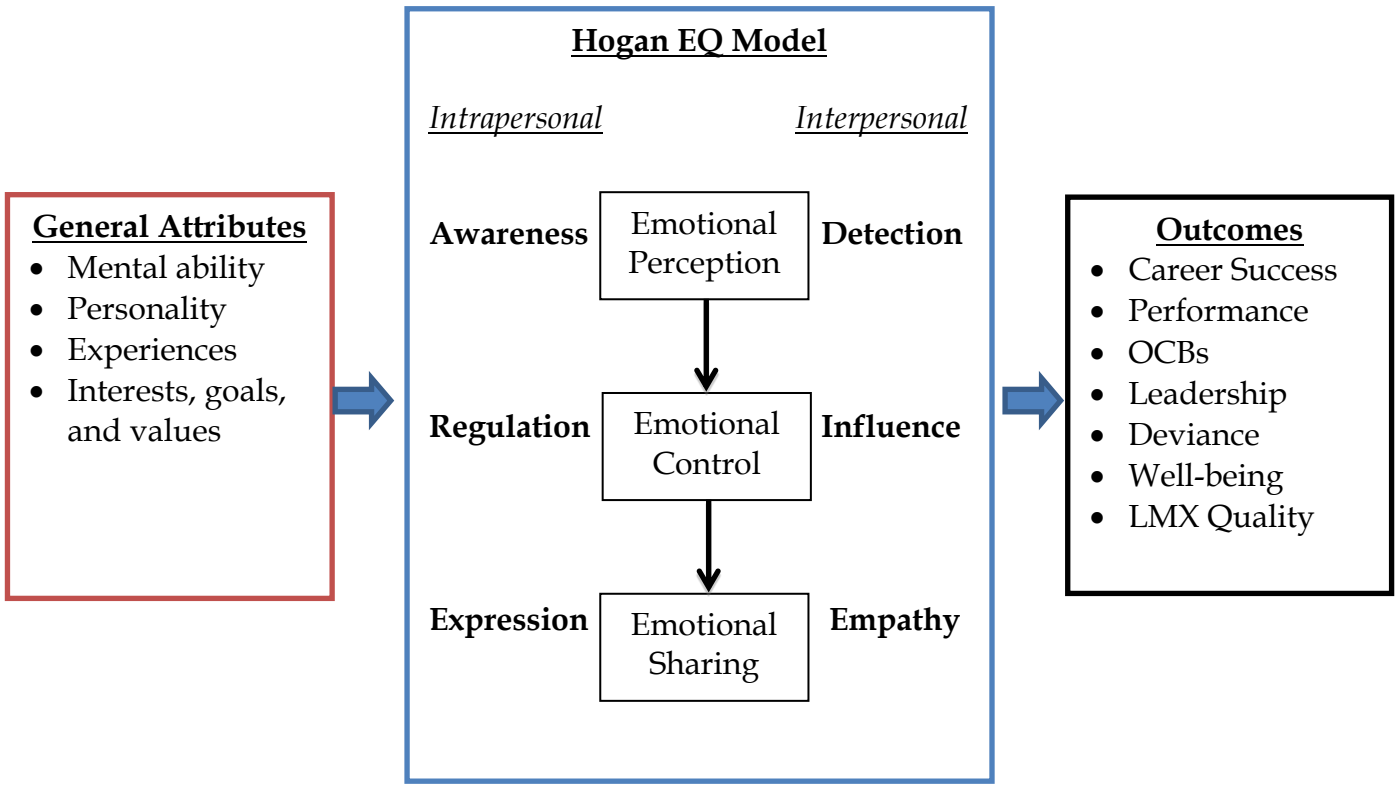

Figure 1. EQ Model

Most EQ models contain three components: perceiving, controlling, and sharing emotional signals (Chamorro-Premuzic, 2011; Chamorro-Premuzic & Furnham, 2010; Halberstadt et al., 2001; Mayer & Salovey, 1997; Palmer, Gignac, Ekermans, & Stough, 2008; Riggio & Lee, 2007; Saarni, 1999; Scherer, 2007; Tett et al., 2005), which aligns with Gross and Thompsons's (2007) model of emotional experience: attention, assessment, and response. This three-part distinction is based on earlier models of clinical and communication training aimed at improving people skills: (a) the "decoding" of messages and social situations, (b) the processing of such information, and (c) the "enactment" of an intended response (Riggio & Lee, 2007). Most EQ models also distinguish between self- and other-focused emotional competencies (Gardner, 1983; Tett et al., 2005; Weisinger, 1998). Research on emotions (Keltner & Haidt, 1999), human performance (R. Hogan & Warrenfeltz, 2003), and intelligence (Gardner, 1983) suggests

emotional functioning exists on different levels: inward vs. outward, private vs. social, and intrapersonal vs. interpersonal. Such perspectives place differential emphasis upon the experiential vs. the social nature of emotions.

Research has shown that personality scales and EQ scales are often correlated. For example, O'Boyle et al. (2010) estimated corrected correlations between common EQ scales and personality scales in the small to moderate ranges (.11 to .54). Joseph and Newman (2010) provide meta-analytic evidence that conscientiousness is linked to higher emotional perception and emotional stability with higher emotional regulation. Other research suggests that: (a) approximately 2/3 of the variability in EQ can be accounted for by personality variables, and (b) when neuroticism is scored as emotional stability or adjustment, all Big Five factors are positively correlated with EQ (Webb et al., 2013).

Personality predicts EQ because it influences our experiences (Buss, 1987; Snyder & Ickes, 1985) and the social roles we adopt (Roberts, 2006; Roberts & Wood, 2006), which in turn influences the types of competencies we acquire. For instance, agreeable people are much more likely to adopt "getting along" roles, such as volunteering (Carlo, Okunb, Knight, & Guzman, 2005; Graziano & Eisenberg, 1997). By doing so, they will come to see themselves as altruistic and adopt additional helpful roles (Roberts & Woods, 2006), which should further enhance and reinforce their capacity to empathize with and relate to others (agreeableness and empathy are correlated, see Davies, Stankov, & Roberts, 1998; McCrae, 2000). Further, the ordering of the EQ components in our model are consistent with both cascading (Joseph & Newman, 2010) and pinwheel (Halberstadt et al., 2001) notions of development in which perceiving emotions is considered primary to controlling and sharing emotions. One must first be able to detect an emotion (e.g., perception) before being able to transform or manipulate the emotional content itself (e.g., control). Finally, the interpersonal consequences of emotions are conveyed through the capacity to interact with others appropriately (e.g., sharing).

Emotional Perception. Most EQ models assume that the basic EQ competency is the ability to perceive and interpret emotional states (Ciarrochi, Caputi, & Mayer, 2003). Most theories also assume that being able to perceive one's emotions and the emotions of others are separate but related competencies. We define the intrapersonal component of emotional perception, *emotional self-awareness,* as the ability to access, differentiate, and draw on inner emotions. This awareness, according to Buck (1984, p. 4), allows us to regulate our behavior because we can identify the source of our current emotional state. Recent research supports this notion and suggests persons with emotional self-awareness are less likely to let their moods interfere with their thoughts (Ciarrochi et al., 2003). We define the interpersonal component, *emotional detection,* as the ability to decipher the emotional signals of others. In most jobs, employees interact with coworkers who display emotions that provide information about their goals and attitudes (Rafaeli & Sutton, 1987). Detecting colleagues' emotions may facilitate coordination and interpersonal functioning that may, in turn, enhance job performance (Law et al., 2004).

Emotional Control. Emotional control refers to strategies for altering the emotional states of oneself and others. Managing emotions is the "strategic" aspect of EQ; it allows people better to attain their goals through direct manipulation of emotions with situational relevance (Mayer & Salovey, 1997). The intrapersonal component, *emotional regulation,* represents proficiency in

amplifying, nullifying, or reversing one's emotional states. Emotional regulation includes the ability to select effective coping strategies (Joseph & Newman, 2010), thereby retaining cognitive resources to maximize job performance (Joseph & Newman, 2010). The interpersonal component, *Emotional influence,* refers to influencing the internal affective states of others. The capability to regulate a customer or client's emotions, for instance, may lead to better interaction outcomes (Lopes et al., 2004). Unlike regulation, individuals often use emotional influence to pursue social goals, such as getting along with teammates.

Emotional Sharing. We base the emotional sharing component of our model on functional accounts of emotions (Frijda & Mesquita, 1994; Keltner & Haidt, 1999). Emotional sharing concerns reading situational demands and responding accordingly (e.g., displaying empathy to a customer's personal plight with appropriate vocal and facial displays). *Emotional expressivity*, the intrapersonal component of emotional sharing, concerns being able to convey desirable emotional states to others. Hochschild (1983) coined the term *emotional labor* to refer to "the management of feeling to create a publicly observable facial and bodily display" (p. 7). For example, customer service representatives need to convey happiness, whereas bill collectors may portray anger to elicit payment (Elfenbein, 2007). We define the interpersonal component of emotional sharing, *emotional empathy*, as the capacity to experience, share, and respond to the emotional states of others. Empathizing with others facilitates norm compliance, communicative ability, and social adroitness (Greif & R. Hogan, 1973). Being able to empathize with others creates deeper connections at work (Kahn, 1992).

Method

Predictor Measures

Combinations of personality facets consistently predict a range of work outcomes better than broad personality factors (Casillas, Robbins, McKinniss, Postlethwaite, & Oh, 2009; J. Hogan & Roberts, 1996; Ones, Dilchert, Viswesvaran, & Judge, 2007; Paunonen, 1998; Paunonen & Ashton, 2001; Paunonen, Haddock, Försterling, & Keinonen, 2003; Paunonen & Nicol, 2001; Tett & Christiansen, 2007). Furthermore, research has shown that dark side characteristics can provide prediction above and beyond traditional FFM assessments of personality (Hogan Assessment Systems, 2010). Therefore, in developing personality-based scales to predict EQ, we used Hogan Personality Inventory (HPI) subscales (Homogenous Item Composites, hereafter HICs) and Hogan Development Survey (HDS) scales to identify the optimal combination to predict each component of our model.

To create personality-based scales to predict components of our EQ model, we used data from the Hogan archive (Hogan Assessment Systems, 2013), a repository of criterion-related studies using Hogan's assessments. First, we identified HPI facets (HICs) and HDS scales correlated with each component by examining correlation matrices representing relationships between all relevant scale components (i.e., HPI HICs and HDS scales) and performance aligned with each component of our model. Aligned performance ratings came from multiple criterion studies in the Hogan archive (see Table 1 for examples).

Table 1

Example Performance Criterion for EQ Components

Component	Criterion Items
Awareness	- Remains aware of the impression that he/she makes on others - Displays awareness of impact on others - Exhibits awareness of his or her own strengths and limitations
Detection	- Can read people quickly and accurately - Recognizes when assistance is needed by others - Recognizes verbal and nonverbal cues and reacts appropriately
Regulation	- Handles pressure without getting upset, moody, or anxious - Keeps emotions under control at all times - Persists during difficult periods with energy and enthusiasm
Influence	- Effectively calms others such as angry or distraught customers - Helps make others enjoy their work; is rewarding to be around - Creates a good first impression; instills trust and confidence
Expressivity	- Shows excitement about doing a job well - Is generally upbeat and positive at work - Acts in a friendly, caring, and cooperative manner
Empathy	- Is considerate of co-workers and customers - Considers the needs of others before taking actions - Shows concern for the rights and feelings of others

Next, we tested combinations of facets and scales to minimize overlap between predictor scales and maximize prediction of the EQ competencies. We used two methods to examine the relationship between EQ algorithms and aligned performance ratings. The first follows the weighting procedure recommended by Johnson, Carter, and Tippins (2001) based on an equation provided by Nunnally (1978). This equation calculates an estimate of the overall relationship from multiple unit weighted predictors. The second uses multiple regression, with the constructed matrices serving as data input. This approach produces a multiple regression coefficient based on an ideal combination of predictor variables. Following recommendations of Viswesvaran and Ones (1995), we used the harmonic mean of all matric components as the sample size for these regression analyses.

Relationships with Performance

We correlated EQ scales with criterion data from the Hogan archive (Hogan Assessment Systems, 2013). Data in the archive were collected to identify relationships between various predictor measures and job performance. Criterion data are standardized within studies and combined into criterion variables representing a wide variety of performance areas organized according to the Hogan Competency Model (HCM; Hogan Assessment Systems, 2009). The HCM represents a taxonomy of job behaviors organized under four domains: intrapersonal skills, interpersonal skills, technical or work skills, and leadership skills (Hogan & Warrenfeltz, 2003).

The interpersonal skills domain contains competencies related to building and maintaining relationships. The intrapersonal skills domain contains competencies related to resiliency and self-control. The work skills domain contains competencies related to industry or business knowledge. Lastly, the leadership skills domain concerns competencies related to recruiting, building teams, and managing performance.

Results

Table 2 presents observed and operational (i.e., corrected for unreliability in the criterion) predictive validity coefficients for each personality-based predictor scale and aligned performance ratings. Results are statistically significant for all six scales, supporting the use of HIC and HDS scale combinations to predict EQ-related behaviors.

Table 2

Overall Relationships between HPI- and HDS-Based EQ Algorithms and Observer Ratings of EQ

	Regression		**Nunnally**	
EQ	**Raw**	**Corrected**	**Raw**	**Corrected**
Awareness	.35**	.49	.25**	.35
Detection	.32**	.44	.29**	.40
Regulation	.22**	.31	.16**	.22
Influence	.20**	.28	.17**	.24
Expressivity	.25**	.35	.22**	.31
Empathy	.30**	.42	.19**	.26

Note. Corrected = Correlations have been corrected for criterion unreliability; ** = $p < .01$.

Table 3 presents the operational relationships with our EQ scales and rating of performance aligned with each competency in the HCM. As expected, results show that EQ scales tend to be the most highly correlated with performance ratings that relate to social and intrinsic motivational aspects of job performance such as interpersonal (e.g., Influence and Building Relationships) and intrapersonal skills (e.g., Work Attitude and Responsibility).

Table 3

EQ Scale Relationships with Performance Outcomes

Competency	*N*	AWA	DET	REG	INF	EXP	EMP	Overall EQ
Interpersonal Skills								
Teamwork	577	.04	.14*	.14*	.16**	.10	.15**	.16**
Service Orientation	419	.03	.08	.06	.10	.11	.06	.10
Oral Communication	375	.13	.01	.14*	.15*	.22**	.14	.21**
Citizenship	327	.10	.03	-.02	.05	.10	-.07	.04
Organizational Commitment	295	.10	.22*	.15	.21**	.16*	.13	.22**
Building Relationships	284	.21**	.24**	.22**	.23**	.22**	.22**	.29**
Active Listening	179	.26*	.07	.22*	.18	.28**	.28**	.29**
Negotiation	147	.19	.27*	.24*	.17	.15	.26*	.27*
Influence	126	.12	.39**	.44**	.36**	.23	.41**	.47**
Valuing Diversity	70	.08	.25	.27	.10	-.01	.40*	.23
Social Engagement	25	.39	-.11	.24	.19	.25	.09	.24
Intrapersonal Skills								
Stress Tolerance	843	.00	.06	.11*	.08	.02	.13**	.10*
Self-Development	732	-.01	.04	.08	.06	.02	.05	.07
Achievement Orientation	673	.06	.10	.08	.15**	.09	.08	.13**
Dependability	603	.05	.10	.04	.13*	.15**	.07	.12*
Following Procedures	516	-.01	-.05	-.07	.04	.07	-.04	-.01
Detail Orientation	502	-.03	.08	-.01	.07	.09	.00	.06
Work Attitude	449	.04	.17*	.17**	.19**	.09	.17**	.18**
Flexibility	451	.04	.12	.11	.06	.00	.09	.09
Responsibility	415	.04	.18**	.15*	.14*	.08	.15*	.17*
Professionalism	388	.09	.14*	.26**	.08	-.02	.24**	.17*
Trustworthiness	314	.00	-.02	.09	.02	-.01	.08	.04
Planning/Organizing	312	.04	.13	.05	.06	.13	.07	.11
Work Ethic	300	.00	.03	-.07	.03	.03	-.06	.00
Initiative	295	.05	-.03	.02	.02	-.01	.07	.03
Perseverance	285	.00	-.09	-.03	-.08	.01	-.06	-.06
Vigilance	208	-.09	.12	.06	.01	.11	.02	.03
Risk Management	156	.07	-.01	-.10	-.01	.09	-.11	-.05
Self-Confidence	153	.02	.09	.15	.02	.16	.10	.15

Table 3 (Continued)

EQ Scale Relationships with Performance Outcomes

Competency	*N*	AWA	DET	REG	INF	EXP	EMP	Overall EQ
Intrapersonal Skills								
Time Management	116	-.11	.14	-.02	-.16	-.15	-.02	-.02
Caring	71	.14	.06	-.11	.01	-.08	.01	.00
Leadership								
Decision Making	617	-.05	.06	.01	.00	.03	.00	.00
Motivating Others	493	.02	.16*	.01	.08	.07	.00	.06
Employee Development	352	.08	-.02	.01	.10	.07	.05	.06
Strategic Planning	310	.14	.01	.11	.16*	.16*	.10	.15
Resource Management	264	.12	.18*	.11	.08	.09	.08	.16
Managing Conflict	195	-.01	-.07	-.04	-.15	.07	-.05	-.06
Delegation	163	.07	.22*	.10	.12	.04	.14	.15
Building Teams	163	.16	.10	-.06	.20	.16	.01	.14
Managing Performance	152	.22	.05	.20	.09	.09	.17	.19
Business Acumen	140	-.02	.21	.14	.18	.05	.17	.19
Managing Change	136	.22	.09	.24*	.18	.06	.26*	.25*
Talent Management	130	.09	.11	.11	.10	-.08	.15	.16
Work Skills								
Safety	440	.05	.05	-.02	.06	.11	.00	.07
Industry Knowledge	243	.03	.13	.08	.12	.10	.15	.15
Financial Acumen	227	.02	.15	.16	.07	.17	.11	.18
Sales Ability	226	.03	.27**	.16	.27**	.29**	.14	.31**
Information Analysis	193	-.12	.11	.12	.02	.08	.00	.11
Goal Setting	179	.16	.23*	.01	.19	.25*	.12	.20
Quality Orientation	148	.09	.08	.11	.06	.15	.06	.15
Innovation	127	.14	.17	.32**	.31**	.14	.32**	.39**
Presentation Skills	126	.22	.14	.36**	.24	.31*	.28*	.40**
Problem Solving	69	.44**	.38*	.32	.47**	.36*	.32	.47**
Written Communication	24	.48	-.32	.21	.26	.58*	.29	.37
Overall Performance	1635	.09**	.05	.07*	.13**	.12**	.09*	.13**

Note. * = $p < .05$; ** = $p < .01$; *N* = Sample Size; Correlations corrected for criterion unreliability; AWA = Awareness; DET = Detection; REG = Regulation; INF = Influence; EXP = Expressivity; EMP = Empathy; Competitive, Political Awareness, and Problem Identification performance dimensions are not included due to lack of sufficient data.

Discussion

This paper presents a comprehensive EQ model. Next, we describe the development of personality-based scales for predicting job performance ratings aligned with each component of the model. Finally, we show that these scales also predict a range of performance indicators, with strongest relationships aligned with interpersonal and intrapersonal skills and fewer significant relationships with more task or work oriented skills.

This research contributes to the EQ literature in a number of ways. First, our EQ model helps unify existing research examining a variety of models that share some, but not all, components with our model. This framework provides an organizing structure for better consolidating and reviewing existing EQ research. Next, our results show personality scales can predict EQ performance. Furthermore, our relationships with aligned performance outcomes are comparable to correlations between other self-report EQ inventories and EQ-related performance ratings. For example, correlations between the MSCEIT (Mayer, Salovey, & Caruso, 2002) and ratings of job performance range from .22 to .46 (Brackett & Salovey, 2004). Finally, based on data from over 300 criterion studies and over 10,000 research participants, we show that personality-scales designed to predict EQ-related performance predict a wide range of work behaviors critical to success for numerous jobs. Furthermore, these results should generalize well to future samples as they represent a variety of jobs, organizations, and industries.

One limitation of the current paper is the lack of convergent validity. Although the competencies we predicted are EQ-related (and representative of our model's components and definitions), we currently lack information describing how our predictor-scales relate to other validated assessments of EQ. Such information could provide evidence that further validates our model as a bridge of previous competing models. Also, all of our predictive validity evidence including the HPI and HDS to develop scales aligned with each component of our EQ model. We encourage future research to replicate the process we used with additional personality measures.

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