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The unique and common effects of emotional intelligence dimensions on job satisfaction and facets of job performance: an exploratory study in three countries

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ABSTRACT

Previous empirical studies have either used a unidimensional or a multidimensional analytical approach to examine the consequences of emotional intelligence (EI). In this exploratory study we integrate and extend these two approaches, using a novel perspective to better understand the structure of the EI-job satisfaction and the EI-job performance relationship. Using commonality analysis and data from Germany, India, as well as the U.S. we partition the explained variance for job satisfaction, in- role performance, and extra-role performance into the variance that is uniquely explained by the individual EI dimensions and the variance that is common to sets of EI dimensions. We provide evidence that the EI dimensions are differently related to job satisfaction and job performance facets. Furthermore, the findings offer insights on how unique and common effects vary across countries. Partitioning the unique and commonly shared variance allows us to assess the true predictive power of individual EI dimensions and of sets of EI dimensions. Based on these findings, we discuss implications for theory development and provide future research directions.

KEYWORDS

Emotional intelligence; commonality analysis; job performance; job satisfaction

Introduction

Emotional intelligence (EI)—an individual's capacity to accurately and efficiently process emotional information relevant to the recognition, construction, and regulation of emotion in oneself and others (Mayer &

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Salovey, 1995, p. 197)—has been controversially discussed in the literature (e.g. Ashkanasy & Daus, 2005; Cherniss, 2010; Jordan et al., 2003). While metaanalytic evidence suggests that EI has incremental predictive validity in predicting employees attitudes and behaviors over and above established predictors, such as personality traits and general mental ability (Joseph & Newman, 2010; Joseph et al., 2015; Miao et al., 2017; O'Boyle et al., 2011; Van Rooy & Viswesvaran, 2004), the variety of EI conceptualizations, measures, and operationalization caused an ongoing debate about the validity of EI (e.g. Conte, 2005; Harms & Credé, 2010). Salovey and Mayer (1990) conceptualized EI as a multidimensional construct. While not all measures followed this specific conceptualization, the majority of EI measures have in common that they consider EI to be multidimensional (Matthews et al., 2007). Despite the general agreement on the multidimensional nature of EI, in the literature two diverging empirical approaches to statistically assess the influence of EI on various outcomes have emerged. In the first approach a unidimensional operationalization is used to statistically test the influence of *overall* EI on different outcomes (see, e.g. Law et al., 2004). This approach emphasizes the common effect of the EI dimensions and, thus, their shared variance explained in an outcome. The second approach is a multidimensional operationalization and the test of the association between the *individual* EI dimensions and an outcome (Law et al., 2008). In this empirical approach EI exists as a set of individual dimensions, with each EI dimension explaining unique variance in the outcome variable.

Both empirical approaches have contributed to important theoretical advances and practical insights. However, both approaches also have their limitations. Using a unidimensional empirical approach, and thus focusing on overall EI, limits the analysis of EI's contribution to the common variance among the EI dimensions in explaining variation in a specific outcome. Empirical studies based on this approach are unable to uncover effects resulting from only a single EI dimension. The majority of previous studies only report their findings for overall EI. This may result in a misleading interpretation of findings, as EI dimensions may not necessarily have the same effects as the overall EI construct, depending on the specific outcome examined and the study context. Empirical studies that use the multidimensional approach typically focus on the analysis of EI's contribution to the explanation of variations in outcomes based on unique variations in each of the four EI dimensions. The statistical approaches that are typically used to examine the relationships between EI dimensions and an outcome (i.e. hierarchical regression analysis and structural equation modeling) fail to address potential multicollinearity between independent variables (e.g. Grewal et al., 2004; Kalnins,

2018). Given the complex interrelations and correlations between EI dimensions and, therewith, the degree of potential multicollinearity among EI dimensions, the standard statistical approaches may result in wider confidence intervals and wrong signs of the estimates, which may complicate and mislead researchers' interpretation of findings (Nimon & Reio, 2011). Commonality analysis (Mood, 1969; Seibold & McPhee, 1979) provides an approach to decompose the explained variance in a particular outcome into the non-overlapping parts accounted for by the independent variables and explicitly addresses multicollinearity. Thus, commonality analysis provides separate measures of unique variance explained for each individual EI dimension in addition to measures of shared variance for all combinations of EI dimensions (Kraha et al., 2012).

Drawing on a mutualism perspective towards general intelligence (Van Der Maas et al., 2006), we argue that the EI dimensions are both individual abilities that complete each other as well as mutually interrelated abilities that reinforce each other, creating synergistic blends of two or more EI dimensions. Based on this line of thinking we posit that the unidimensional and the multidimensional approach can benefit from, and contribute to, one another by integrating them in a third approach. This third approach integrates and extends the two standard empirical approaches by assessing so far unexplored joint effects of sets of two or three EI dimensions.

The present study makes three contributions. First, following recent calls to use a mutualism perspective in the work environment (Schneider & Newman, 2015), we explore whether, and to what extent, individual and shared effects of EI dimensions explain variance in job satisfaction, in-role performance, and extra-role performance. Based on commonality analysis, our results reveal the specific individual EI dimension as well as sets of two, three, and all four EI dimensions that account for variance in the three outcomes. These findings provide a more detailed understanding of how EI is related to three key outcomes in the workplace, enabling researchers to develop more precise theoretical predictions, which better describe the nature of the relation.

As a second contribution, we compare the individual and shared effects of EI dimensions across job satisfaction, in-role performance, and extra-role performance. We respond to calls to identify key EI dimensions for specific outcomes and calls for studies that compare the effect of EI dimensions across different outcomes (e.g. Cherniss, 2010; Matthews et al., 2007). Our results reveal similarities and differences in the key individual EI dimensions and sets of EI dimensions across outcomes, providing a more complete understanding of how EI is associated

with different outcomes, enabling researchers to develop more accurate theoretical models.

The third contribution of the present study is a more fine-grained characterization of the differentiated outcome effects of individual EI dimensions and sets of EI dimensions in distinct national contexts. Despite the high number of studies examining various outcomes of EI, we still have a limited understanding of the similarities and differences of the direction and strength of the association between EI and various work-related attitudes and behaviors in different countries. Following recent calls to move beyond single country studies (e.g. Gunkel et al., 2016; Ybarra et al., 2014), we explore whether the structure of individual and shared effects of EI dimensions vary across samples from Germany, India, and the U.S.—three countries that substantially differ in their cultural background. Our results show that while the key individual EI dimensions and sets of EI dimensions are the same across the three samples, the relative importance of the individual and shared effect vary substantially across samples. These findings provide researchers a basis to develop a more nuanced and context-sensitive perspective towards EI in the workplace.

Background and exploratory research questions

Literature review

While various measures of EI have been proposed in the literature (for an overview see, e.g. Pérez et al., 2005), the present study focuses on the Wong and Law Emotional Intelligence Scale (WLEIS). Based on the definition and conceptualization of EI proposed by Mayer and Salovey (1995), Wong and Law (2002) developed a short measure of EI specifically for research in the organizational context. According to Wong and Law (2002, p. 246) EI consists of four dimensions: Self-emotional appraisal (SEA), others' emotional appraisal (OEA), regulation of emotion (ROE), and use of emotion (UOE). SEA refers to individuals' ability to understand and express their emotions. OEA refers to individuals' ability to perceive and understand the emotions of individuals around them. ROE refers to individuals' ability to regulate their emotions, which facilitates their rapid and successful recovery after psychological distress. Use of emotion (UOE) refers to individuals' abil-ity to utilize and direct their emotions towards constructive activities and personal performance.

While the conceptualization of EI has been extensively discussed in the literature in the last two decades, the literature has been rather silent on the question whether EI is most appropriately empirically assessed as a unidimensional or as a multidimensional construct. Given the

dominance of studies that used a unidimensional empirical approach towards EI, recent studies stressed the importance of the multidimensional nature of EI and the differentiated relations between EI dimensions and various outcomes (e.g. Bozionelos & Singh, 2017; Greenidge et al., 2014). While prior research examined various outcomes of EI, in the present study we focus on aspects of job performance and job satisfaction as these are the most researched and theoretically described consequences of EI in this literature stream (Joseph & Newman, 2010; Joseph et al., 2015; Miao et al., 2017; O'Boyle et al., 2011; Van Rooy & Viswesvaran, 2004). Moreover, given the research objectives of this study in the following literature review, we focus on studies that have examined the association between the *individual* EI dimension and the three dependent variables based on the WLEIS. Table 1 presents a summary of the identified studies.

EI dimensions and job performance

While in the literature various dimensions and measures of job performance are utilized, an approach used in a large number of studies is the 'in-role' and 'extra-role' classification by Katz and Kahn (1966). They see in-role performance as well-defined (task oriented) roles and activities that might typically be seen in formal job descriptions, and extra-role performance as those roles and activities that are not specifically prescribed or required in the tasks specifically related to the job. In the present study we focus on this classification of job performance facets. Greenidge et al. (2014) found all four EI dimensions to have significant direct influence on extra-role performance. Bozionelos and Singh (2017) found a quadratic model to be the best fit (versus linear model) for overall EI and each of the four EI dimensions for in-role and extra-role per-formance.

The reminder of the identified studies examined overall job performance, often measuring a combination of task and context characteristics. Shamsuddin and Rahman (2014) found ROE and UOE to be significant predictors of general job performance. In contrast, Law et al. (2008) found OEA and ROE to have significant associations with general job performance and Huang et al. (2010) found that only ROE had a direct significant impact on work performance. Mulki et al. (2015) found ROE to be positively associated with job performance. Also focusing on a single EI dimension, Locander et al. (2014) found ROE to have an indirect association with general job performance through adaptive selling.

Overall, the multitude of findings suggests that the relationships between EI dimensions and overall job performance as well as job

Table 1. Summary of previous studies on the relation between EI dimensions and different outcomes.

Study	Sample and study context	EI dimensions	Outcome	Analysis	Main findings
Bozionelos and Singh (2017)	$N = 188$, expatriates, mixed country sample	SEA, OEA, ROE, UOE	JP	Regression	All EI dimensions are positively related to JP
Extremera et al. (2018)	$N = 405$, professionals, Spain	SEA, OEA, ROE, UOE	JS	Regression	Overall EI and the four EI dimension are directly related to JS as well as indirectly through vigour, dedication, and absorption
Güleryüz et al. (2008)	$N = 267$, hospital nurses, Turkey	SEA, OEA, ROE, UOE	JS	CB-SEM	OEI is positively related to JS; ROE positive effect on JS (no effect for SEA, OEA, UOE)
Guy and Lee (2015)	$N = 167$, public service employees, Turkey	SEA, OEA, ROE	JS	CB-SEM	OEA is negatively related to JS, SEA is positively related to JS (no effect for ROE)
Greenidge et al., (2014)	$N = 222$, employees (mixed industries), Caribbean	SEA, OEA, ROE, UOE	JS, JP	CB-SEM	UOE, SEA, and ROE are positively related to JS (no effect for OEA), UOE and ROE are positively related to JP (no effect for SEA and OEA)
Huang et al. (2010)	$N = 493$, call center agents, China	SEA, OEA, ROE, UOE	JP	Regression	UOE is positively associated with JP (no significant relation for ROE, SEA, and OEA)
Kafetsios et al. (2011)	$N = 179$, teacher, Greece	SEA, OEA, ROE, UOE	JS	Regression	OEA and UOE are positively associated with JS (no effect for SEA and ROE)
Kafetsios and Zampetakis (2008)	$N = 523$, educators, Greece	SEA, OEA, ROE, UOE	JS	CB-SEM, regression	OEI is positively related to JS, OEA, UOE, and ROE are positively related to JS (no effect for SEA)
Khalid et al. (2018)	$N = 144$, pharmacists employees, Pakistan	SEA, OEA, ROE, UOE	JP	PLS-SEM	All fours EI dimensions are significantly and positively correlated with JP (the direct effect of EI on JS was not reported)
Law et al. (2008)	$N = 102$, R&D scientists, China	SEA, OEA, ROE, UOE	JP	Regression	OEA and ROE are positively associated with JP (no effect for SEA and UOE)
Lee (2018)	$N = 167$, public service employees, U.S.	SEA, OEA, ROE, UOE	JS	CB-SEM	SEA is positively related to JS; OEA is negatively related to JS (no effect for ROE)
Lee and Chelladurai (2018)	$N = 322$, high school coaches, U.S.	SEA, OEA, ROE, UOE	JS	CB-SEM	Overall EI is significantly related to JS, all four EI dimensions are significantly and positively correlated with JS
Locander et al. (2014)	$N = 279$, medical supply and real estate sales agents, U.S.	SEA, ROE	JP	CB-SEM	No effect for both SEA and ROE
Meisler and Vigoda-Gadot (2014)	$N = 368$, employees (financial organization), Israel	SEA, OEA, ROE, UOE	JS	CB-SEM	Overall EI is significantly related to JS, except for SEA all EI dimensions are significantly and positively correlated with JS
Mulki et al. (2015)	$N = 850$, salespersons, Mexico	ROE	JP	CB-SEM	ROE is positively related to JP

(*continued*)

Table 1. Continued.

Study	Sample and study context	EI dimensions	Outcome	Analysis	Main findings
Pekaar et al. (2017)	Study 1: $N = 68$, lawyers, Netherlands; Study 2: $N = 61$, salespersons, Netherlands	SEA, OEA, ROE, UOE	JP	Regression	Study 1: OEA is positively related to subjective JP (no effect for SEA, ROE, and UOE); Study 2: OEA is positively associated with objective JP (no effect for SEA, ROE, UOE)
Shamsuddin and Rahman (2014)	$N = 118$, call center agents, Kuala Lumpur	SEA, ROE, UOE	JP	Regression	Overall EI is positively related to JP, ROE and UOE are positively related to JP, SEA shows no significant association
Sun et al. (2017)	$N = 398$, teacher, China	SEA, OEA, ROE, UOE	JS	CB-SEM	Coping humor mediates the relation between UOE as well as ROE and JS
Trivellas et al. (2013)	$N = 145$, hospital employees, Greece	SEA, OEA, ROE, UOE	JS	PLS-SEM	SEA and UOE are positively related to JS (no effect for OEA and ROE)
Uslu and Uslu (2019)	$N = 146$, employees, Turkey	SEA, OEA, ROE, UOE	JS	Regression	Overall EI and the four EI dimensions are positively associated with JS
Yan et al. (2018)	$N = 356$, nurses, China	SEA, OEA, ROE, UOE	JS	CB-SEM	Overall EI is significantly related to JS, all EI dimensions are significantly and positively correlated with JS

Note: CB-SEM = covariance based structural equation modeling, JP = job performance, JS = job satisfaction, OEA = others' emotional appraisal, OEI = overall EI, PLS-SEM = partial least squares structural equation modeling, ROE = regulation of emotion, SEA = self-emotional appraisal, UOE = use of emotion.

performance facets are complex, leaving unresolved the importance of the individual EI dimensions and the specific blend of EI dimensions that result in higher job performance. A potential reason for the ambiguous findings is that previous studies have largely focused on overall job performance and few studies have examined the different facets of job performance. Thus, we still lack a deeper understanding of which EI dimensions or sets of EI dimensions contribute to in-role and extra-role performance. This is an important limitation of previous research as EI should be especially relevant for those performance aspects that go beyond formal job requirements. Such behaviors often involve social interactions and the assessment, regulation, and use of emotions, which are abilities required to effectively identify those situations in which coworkers and the organization as a whole benefit from extra-role behaviors.

EI dimensions and job satisfaction

Also for the relations between EI dimensions and job satisfaction—the 'positive emotional state resulting from the appraisal of one's job or job experience' (Locke, 1976, p. 1300)—the results are remarkably inconsistent. While Uslu and Uslu (2019) as well as Lee and Chelladurai (2018) found all four EI dimensions to have a positive association with job satisfaction, Guy and Lee (2015) found SEA and OEA to be positively related to job satisfaction. Trivellas et al. (2013) as well as Kafetsios et al. (2011) found SEA and UOE to be significantly related to job satisfaction. Lee (2018) found SEA to have a positive association and OEA to have a negative association with job satisfaction. Greenidge et al. (2014) found all EI dimensions except for OEA to be positively associated with job satisfaction. In contrast, Güleryüz et al. (2008) found that of the four EI dimensions ROE had significant positive association with individual job satisfaction, external job satisfaction, and overall job satisfaction, with SEA also having a significant positive relation with external job satisfaction. Extremera et al. (2018) found all four EI dimensions to be directly related to job satisfaction. Kafetsios and Zampetakis (2008) found OEA, UOE, and ROE to have significant direct effects on job satisfaction.

In summary, a key observation of our literature review is that not all EI dimensions contribute equally to job satisfaction and job performance. Furthermore, while some EI dimensions are related to job satisfaction, the same EI dimensions are not necessarily related to job performance. Consequently, we know little about the similarities and differences in the structure and importance of EI dimensions for specific outcomes as well as across different outcomes. This suggests studies focusing on overall EI (i.e. the first analytical approach), have left the specific effects of the

individual EI dimensions uncovered. This is an important limitation as it hinders the development of more precise theoretical models that may better explicate the specific EI dimensions and sets of EI dimensions relevant in predicting a specific work-related attitude or behavior.

Although those studies that examine the individual EI dimensions (i.e. the second analytical approach) provide a more detailed picture, they focus on the additive predictive explanatory power of the EI dimensions and do not uncover relevant sets of EI dimensions. Furthermore, focusing only on the individual effect of a particular EI dimension may lead researchers to draw misleading implications from their data and analysis. An EI dimension that shows no significant individual effect on a specific outcome might still be of high theoretical and practical relevance as it contributes to the explained variance through a common effect with a second or a third EI dimension. Due to the interrela-tions of EI dimensions, the results of regression analysis and structural equation modeling may be influenced by suppressor effects, which may also lead to a misleading interpretation of findings.

Guy and Lee (2015) hypothesized a positive effect of SEA, OEA, and ROE on job satisfaction. They reported moderate correlations between the three EI dimensions (i.e. SEA-ROE $r = .215$; SEA-OEA $r = .442$; OEA-ROE $r = .249$) and positive correlations between the three EI dimension and job satisfaction (JS) (i.e. SEA-JS $r = .211$; OEA-JS $r = .039$; ROE-JS $r = .158$). Based on structural equation modeling (SEM) they found a statistically significant positive SEM coefficient between SEA and job satisfaction ($\beta = .228$), a statistically significant *negative* relation between OEA and job satisfaction ($\beta = -.203$) given the *positive* correlation ($r = .039$), and a statistically insignificant positive SEM coefficient for the association between ROE and job satisfaction ($\beta = .025$) given a significant positive correlation ($r = .158$). Interpreting their findings Guy and Lee (2015, p. 268) state that the negative relationship between OEA and job satisfaction is '… counter to the commonly assumed relationship …' and that one '… can speculate that being 'on guard' or ever vigilant about what others are feeling draws workers' attention away from the work at hand'. Due to the correlation among EI dimensions, sets of EI dimensions may also suppress the (significant) effects of other EI dimensions, potentially resulting in the incorrect assessment of a dimensions relative importance in predicting an outcome. This example highlights that even with moderate correlations between EI dimensions the results from an empirical approach that focuses solely on the additive value of EI dimensions may mislead researchers' interpretation of findings. With this example we do not intend to criticize the authors, but rather to create awareness for the

need to go beyond regression analysis and SEM and use analytical procedures that may explain such effects.

An additional observation of our literature review is that, while the reviewed studies have been conducted in various countries, to the best of our knowledge, no previous study compared the relationships between EI dimensions and relevant outcomes across countries. Although differences in the measurement of job satisfaction and job performance across studies might cause inconsistent findings, another explanation might be that the strength and structure of relationships between EI dimensions and outcomes vary across countries. As emotions have both universal and culture-specific features (e.g. Shao et al., 2015) the question remains as to whether the same individual EI dimensions and sets of dimensions are related to outcomes, such as job satisfaction and job performance. This is an important gap in our understanding, as we do not know whether theoretical models developed in one specific cultural context still hold in a different cultural context, ultimately hindering the development of more precise theoretical predictions (Rousseau & Fried, 2001).

To address the identified limitations of previous studies, we propose and explore a third empirical approach towards EI, which is able to overcome the limitations of the two standard approaches. Based on commonality analysis and samples from three countries we explore and compare the unique and common effects of EI dimensions for job satisfaction and job performance. In the next section we introduce this approach and demonstrate its relevance in EI research.

Decomposing the variance explained by EI dimensions in job satisfaction and job performance

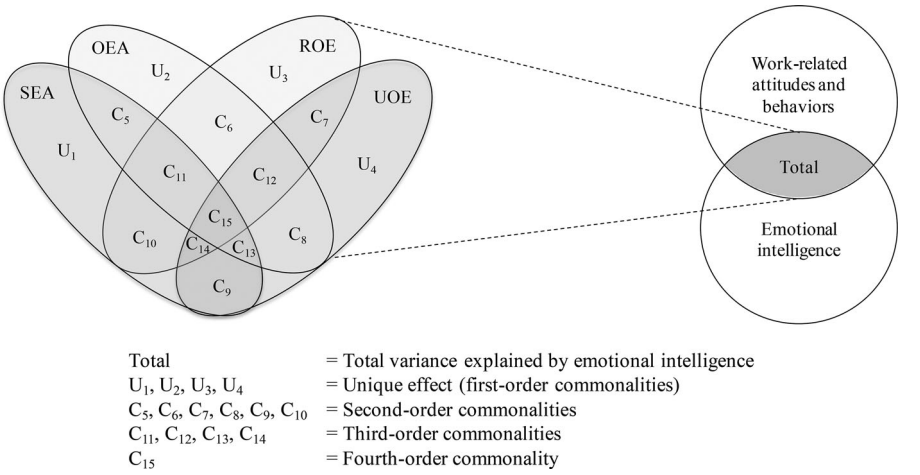
The theoretical foundation for the empirical approach we are proposing is the mutualism model of general intelligence (Van Der Maas et al., 2006). In this study we follow Huynh et al. (2018) argument for mutual interrelations between EI dimensions. Huynh et al. (2018) argue that the different EI dimensions 'mutually influence each other' *without* a 'particular directionality' and that the dimensions function in 'mutually reinforcing processes' (Huynh et al., 2018, p. 114). This mutualism perspective is a key point underlying the mutualism model of general intelligence (Van Der Maas et al., 2006), which posits that intelligence is based on underlying cognitive processes and that 'mutual beneficial or facilitating relations' between these processes support the development of other processes related to this intelligence (Van Der Maas et al., 2006). The positive relations between processes can be direct (i.e. bidirectional) or indirect (i.e. through other processes). Van Der Maas et al. (2006) argue

that such mutual relations have been described in previous research for various cognitive processes (e.g. Dweck, 1986; Gibson, 1986). In the mutualism model, specific cognitive processes mutually influence each other within specific environmental constraints—an aspect that becomes important later in our argument for cross-country comparisons. Van Der Maas et al. (2006) point out that they view cognitive processes in a general sense, including abilities and specific facets of these abilities, and that the mutual relations between these cognitive abilities are not limited to intellectual intelligence but also apply to the social and emotional domain. As Mayer et al. (2000) as well as Law et al. (2004) conceptualized EI as a set of *interrelated* abilities that are developmental in nature, the mutualism perspective is a fruitful ground to describe the interrelations of the EI dimensions.

Drawing on the mutualism perspective, we argue that neither the theoretical frameworks nor the methodological approaches currently used in EI research fully account for the mutual interrelations of EI dimensions. From a theoretical perspective, Joseph and Newman (2010) cascading model of EI is an important first step as it posits that some EI dimensions influence outcomes through other EI dimensions. However, the model predicts a specific order and directionality of interrelations and does not account for the potential mutual interrelations. From a methodological perspective, the two dominant analytical approaches do not account for the mutual interrelations of sets of EI dimensions and, as a result, we still have a limited understanding of the role of *all* potential effects in explaining employees' attitudes and behaviors. Commonality analysis is an analytical approach that goes beyond regression analysis and SEM by providing information on the specific contribution of each independent variable and all combinations of independent variables (Nimon, 2011; Schoen et al., 2011). In a commonality analysis the *R2* values regenerated in regressions of all possible sub-sets of predictors are used in formulas to calculate commonality coefficients, which indicate the amount of variance that an independent variable individually and sets of independent variable jointly explain in a dependent variable.

For the four EI dimensions the total explained variance can be partitioned into 16 effects—four unique effects and twelve common effects, including six common effects of two EI dimensions, four common effect of all four EI dimensions. Figure 1 illustrates the unique and common variance explained by the four EI dimensions.

A unique effect (U1, U2, U3, and U4) indicates how much variance a single EI dimension explains in the outcome. Common effects indicate how much variance is jointly explained by sets of EI dimensions. A common effect of two EI dimensions (C5, C6, C7, C8, C9, and C10) would



Total	= Total variance explained by emotional intelligence
U_1, U_2, U_3, U_4	= Unique effect (first-order commonalities)
$C_5, C_6, C_7, C_8, C_9, C_{10}$	= Second-order commonalities
$C_{11}, C_{12}, C_{13}, C_{14}$	= Third-order commonalities
C_{15}	= Fourth-order commonality

Figure 1. Decomposition of the variance explained by dimensions of emotional intelligence in employees' work-related attitudes and behaviors.

mean that a change in one EI dimension only influences an outcome if accompanied by a change in another EI dimension. Thus, a common effect of two EI dimensions requires a corresponding change in both EI dimensions. Common effects of three EI dimensions are represented by C11, C12, C13, and C14. The common effect of all four EI dimensions is represented by C15. The total variance explained (Total) refers to the sum of all unique and common effects.

From a theoretical perspective, the EI dimensions' common effects that explain variance in a work outcome can be described as the degree to which changes in a work outcome are due to changes in two, three, or all four EI dimensions, e.g. the variation in job performance that is associated with covariation between SEA and OEA. Common effects can, therefore, be understood as an overlap in the explanatory ability of EI dimensions. A common effect is different from an interaction effect (i.e. an interaction of two or three EI dimensions). An interaction effect is present if the strength of a relationship between an independent variable and a dependent variable is contingent on the level of another independent variable. For example, an interaction between SEA and OEA would be present if SEA only has a stronger effect on job performance for a higher level of OEA. A common effect requires the variables to jointly influence the outcome, i.e. to observe a common effect between SEA and OEA. A change in SEA only has an effect on job performance if it is accompanied with a change in OEA, independently of the actual level of SEA and OEA. Therefore, common effects require EI dimensions to be correlated. However, common effects do not require the EI dimensions to relate causally to one another. In line with the mutualism perspective and mutual interrelations between EI dimensions, when interpreting

common effects of two, three, or all four EI dimensions we can say that the effect of one EI dimension on an outcome is conditioned on variation in one, two, or three other EI dimensions.

Our current understanding of the structure of the relation between EI dimensions and job satisfaction as well as job performance is limited to the sum of all common effects of overall EI (i.e. the unidimensional approach) and the total effect of unique and common effects of EI dimensions (i.e. the multidimensional approach). While previous studies have extensively provided arguments for unique effects of EI dimensions on job satisfaction and job performance, these studies have not examined the *specific* unique effect of each EI dimension (i.e. the variance explained only by variations in a single EI dimension when all other EI dimensions remain constant). Furthermore, in previous studies the common effects of sets of two or three EI dimensions were only implicitly considered. For example, in explaining the relation between EI and job satisfaction Sy et al. (2006, p. 462) argue that '… employees with high EI may be better at identifying feelings of frustration and stress, and subsequently, regulating those emotions to reduce stress'. Thus, Sy et al. implicitly suggest that an alignment between SEA and ROE is what influences job satisfaction, independently of variations in the other two EI dimensions. Also in their argumentation for the relation between EI and job performance Sy et al. (2006, p. 462) implicitly assume a common effect between two EI dimensions by stating that employees '… with high emotional intelligence should be more adept at regulating their own emotions and managing others' emotions to foster more positive interactions …', which ultimately could lead to higher job performance. Thus, by aligning the effects of variation in ROE and OEA, this argument describes a common effect of two EI dimensions, independently of the other EI dimensions. These common effects of EI dimensions so far have neither been explicitly hypothesized nor empirically examined. Given the current lack of a strong theoretical or empirical rationale, we formulate the following explorative research question:

> Research question 1: What is the structure and relevance of unique and common effects of EI dimensions for in-role performance, extra-role performance, and job satisfaction?

Contextualizing the unique and common effects of EI dimensions

Previous studies stressed the importance of the specific composition of EI dimensions to explain variance in corresponding outcomes (e.g. Bozionelos & Singh, 2017; Greenidge et al., 2014). Underlying the idea that different EI dimensions are relevant in predicting different outcomes

is the notion that different EI dimensions enable employees to appropriately respond to job demands and to handle job-related pressures and challenges. When just considering overall EI (i.e. the unidimensional approach) differences in the structure and relevance of individual EI dimensions for a specific outcome remain unrevealed, unaddressed, and unexplained. For example, a study that examines the association between overall EI and two distinct outcomes finds differences in the strength of these associations. Based on the results for overall EI this study is not able to reveal whether all EI dimensions have a stronger effect for a specific outcome compared to the other or if specific differences in EI dimensions cause the difference. Thus, the proposed third approach provides more theoretical precision and refines and extends our understanding of EI.

The results of previous studies indicate that not all EI dimensions show significant unique effects for job performance and job satisfaction (Greenidge et al., 2014). One may argue that the different domains covered by the four EI dimensions result in stronger associations of specific individual EI dimensions with different outcomes. For example, compared to the other EI dimensions, UOE should be more strongly associated with in-role performance. Individuals with a high degree of UOE are able to channel their emotions towards valuable activities and they are able to encourage themselves to do better constantly and in this way achieve a higher individual performance (Law et al., 2004, p. 484). However, this motivational aspect of EI alone might not be sufficient as the preparation for, and performance of, responsibilities involved in most occupations requires individuals to perceive and appraise their own emotions to direct their attention to their work. Consequently, in addition to the unique effect of UOE the common effect of UOE and SEA should explain variance in in-role performance.

For job satisfaction UOE should be a relevant unique predictor as individuals who are more motivated and who channel their emotions into productive outcomes should perceive their work as being more satisfying (Miao et al., 2017). As an individual's satisfaction with a job may be based on both in-role and extra-role behaviors, both SEA and OEA should contribute jointly together with the UOE to higher levels of job satisfaction. Moreover, for job satisfaction the joint effect of ROE with the other EI dimensions should contribute to higher levels of job satisfaction, as individuals, for example, are better able to cope with feelings that could distract them from work, resulting in a more satisfying perception of their work. In summary, while job satisfaction, in-role performance, and extra-role performance in general benefit from a higher level of UOE and the related higher motivation, the common effect of

sets of specific EI dimensions may well explain additional variance in the respective outcome. Given the current lack of theoretical development and empirical evidence in this area, we formulate the following explorative research question:

> Research question 2: Do structure and relevance of unique and common effects of EI dimensions vary across in-role performance, extra-role performance, and job satisfaction?

Recent conceptual work proposes that cultural values influence work-related behaviors through individuals' emotions as well as the relationships between individuals' emotions and work-related behaviors (e.g. Taras et al., 2011; Tsui et al., 2007). Extant research shows that cultural values are associated with EI dimensions (Gunkel et al., 2014; Shao et al., 2015) and provides initial support for the influence of cultural values on workrelated behaviors through EI (Gunkel et al., 2016). However, we still lack a foundational understanding whether and to what degree the relationships between EI and work-related attitudes and behaviors differ across countries. Previous research on the EI-job satisfaction and the EI-job performance relationships has been limited to single-country studies. To the best of our knowledge, no comparative cross-country studies have been conducted. Based on meta-analytic synthesis of such single country studies, Miao et al. (2017) have examined the association between leaders' EI and subordinates' task performance and between leaders' EI and subordinates' organizational citizenship behavior. They found that cultural value dimensions moderate both relationships, indicating that the association between EI and work-related behaviors is context specific. While this is an important finding, the results of the meta-analysis are based on overall EI and not the EI dimensions. Differences across countries in the consequences of overall EI could arise due to differences in the strengths of effects for the same EI dimension across countries or due to differences in the strengths of effects for different EI dimensions across countries. This is an important limitation as theoretical and practical implications derived from unobserved distinct effects of EI dimensions could be misleading. The mutualism model of general intelligence (Van Der Maas et al., 2006) posits that mutual interrelations between cognitive abilities are taking place within environmental constraints. The environmental context can facilitate or hinder the interrelations between EI dimensions, ultimately resulting in stronger or weaker association with the consequences of the EI dimensions in different environments. A better understanding of the country-specific consequences of EI is important, as firms' operations and workforces are becoming more international, creating challenges in transferring theoretical models developed in one country into other contexts (e.g. Whetten, 2009). Thus, it is valuable to

explore the extent to which theoretical models have explanatory power in different institutional and cultural contexts and develop a more contextualized understanding (e.g. Jordan et al., 2010; Rousseau & Fried, 2001). Given the initial theoretical and empirical support for context-specific effects of EI, we formulate the following explorative research question:

> Research question 3: Do structure and relevance of unique and common effects of EI dimensions on in-role performance, extra-role performance, and job satisfaction vary across countries?

Methodology

Data collection and samples

To answer our exploratory research questions, we collected data in Germany, India, and the United States (U.S.). The three countries vary substantially in their cultural norms and values and represent three of the eleven cultural clusters identified by Ronen and Shenkar (2013): Anglo (U.S.), Germaanic (Germany), and Far East (India). While three countries do not allow us to explicitly statistically test for similarities and differences across countries (Franke & Richey, 2010), our sample base enables us to contrast the findings across countries (e.g. Tsui, 2007; Tsui et al., 2007).

After several pilot tests the participants for the final survey for the Indian sample and the U.S. sample were recruited using Amazon's Mechanical Turk (MTurk). MTurk is an online marketplace that allows anyone to request and perform computer-based tasks in exchange for payment. Since its public release in 2005, MTurk has been adapted by social scientists to conduct research projects in psychology, political science, sociology, and economics (Bohannon, 2016). Several studies indicate that MTurk can be used to collect high quality data (e.g. Goodman et al., 2013). To ensure data quality we followed the recommendations in the literature for research using MTurk (Cheung et al., 2017). First, participants had to have completed at least 100MTurk tasks with an approval rate of at least 95% and had to be based in India or the U.S. Second, the MTurk job advertisement specified that participants must be currently employed or must have been employed within the past year to be eligible for the survey. Third, two verification questions were included in the MTurk survey. Participants, who indicated that they were either not currently, or within the past year employed, or who failed to answer the two verification questions correctly, were automatically excluded from the data collection. MTurk allows the researcher to limit potential participants based on their MTurk performance history as well as their

physical location, which is inferred based on their Internet Protocol (IP) and billing addresses. Finally, participants were offered a monetary incentive in exchange for completing the survey. The survey was advertised on MTurk for two weeks. A total of 263 individuals participated in the survey for the U.S. sample and 252 participants completed the MTurk survey for the Indian sample.

Prior research indicates that survey language might influence participants' responses and the findings of a study (e.g. Harzing, 2006). Consequently, researchers should use the native language of respondents (Harzing et al., 2013). For the MTurk survey we used English as the survey language as English is the established language for most businesses in India and the native language for U.S. respondents. At the time of data collection, MTurk only offered an English language option, and, therefore, we used another approach to collect the data for the German sample. To ensure linguistic as well as conceptual equivalence for the German survey we translated the original questions from English to German and back-translated the questions into English (Brislin, 1980). We used the translated German questions in an online questionnaire that was distributed *via* email over the course of one month by one of the coauthors (overlapped the MTurk collection period). The online survey was distributed throughout several channels, including two German banks, one airline catering company, one entertainment company, and several small regional enterprises. A total of 285 surveys were completed for the German sample. Table 2 provides an overview of sample characteristics.

The respondents in each of the three countries tended to be of a similar age group, well educated, and experienced in work. The sample groups had more women than men for the German and the U.S. sample, while the Indian sample had more men than women. The U.S. sample had an almost equal number of supervisory and non-supervisory personnel, while the Germany sample had somewhat more supervisory personnel and the Indian sample consisted of significantly more supervisory personnel. An analysis of business operations and job classifications was done using NAICS 2-digit codes. All three countries had representation in at least 16 of the 17 classifications.

Measures

Emotional intelligence

We used the Wong and Law emotional intelligence scale (WLEIS; Wong & Law, 2002; Law et al., 2004) to measure overall EI and the four EI dimensions. The WLEIS was specifically designed as a short measure of

Table 2. Summary of sample characteristics.

Characteristics	German sample	Indian sample	U.S. sample
Age	Mean 3.08 (26 to 40)	Mean 3.03 (26 to 40)	Mean 3.15 (26 to 40)
Less than 18 (1)	0%	0%	0%
18 to 25 (2)	23%	15%	18%
26 to 40 (3)	52%	69%	57%
41 to 55 (4)	19%	14%	16%
Over 55 (5)	6%	2%	9%
Gender	58% female	27% female	59% female
Education	Mean 3.68	Mean 5.29	Mean 4.32
High school or less (1)	42%	0%	0%
High school graduate (2)	0%	2%	11%
University (no degree) (3)	0%	2%	20%
University associate degree (2 year) (4)	0%	9%	12%
Undergraduate degree (5)	24%	40%	51%
Master degree (6)	34%	46%	10%
Doctorate or equivalent (7)	0%	1%	1%
Work experience (average)	11 years	9 years	15 years
Work role	28% supervisor	86% supervisor	48% supervisor
Industry (top three)			
First most often reported	32% Finance/insurance	31% Information	16% Wholesale trade/retail
Second most often reported	11% Industrial enterprises	19% Educational services	13% Educational services
Third most often reported	9% Information	12% Finance/insurance	12% Finance/insurance

Note: German sample $N = 285$. Indian sample $N = 251$. U.S. sample $N = 263$.

EI for use in organizational research. Prior studies also showed good measurement invariance of the measure across countries (e.g. Gunkel et al., 2016; LaPalme et al., 2016; Libbrecht et al., 2014). Each of the 16 items was assessed with a seven-point Likert scale, ranging from 1, 'totally disagree', to 7, 'totally agree'. Following Wong and Law (2002) the overall EI variable was calculated as an unweighted average of the items (Germany $\alpha = .81$; India $\alpha = .83$; U.S. $\alpha = .93$).

The first EI dimension, SEA, was measured using four items (e.g. 'I have a good sense of why I have certain feelings most of the time'.). The reliability was good across samples (Germany $\alpha = .75$; India $\alpha = .80$; U.S. $\alpha = .89$). The second EI dimension, OEA, was measured with four items (e.g. 'I always know my friends' emotions from their behavior'.), showing a high reliability (Germany $\alpha = .87$; India $\alpha = .84$; U.S. $\alpha = .87$). The third EI dimension, UOE, was measured with four items (e.g. 'I always set goals for myself and then try my best to achieve them'.), showing good reliability (Germany $\alpha = .70$; India $\alpha = .83$; U.S. $\alpha = .84$). The fourth EI dimension, ROE, was measured with four items (e.g. 'I have good control of my own emotions'.). For all four EI dimensions we

combined the item scores using the unweighted average of items constituting the respective EI dimension (Germany α =.84; India α = .85; U.S. α = .86).

In-role performance

This variable was measured with five items based on Williams and Anderson (1991) and a five point Likert-type scale (1, 'strongly disagree', to 5, 'strongly agree'). We selected this measure as it has been widely used by other researchers in this specific research area and, in general, has shown a high reliability and validity in previous research (e.g. Devonish & Greenidge, 2010). We also selected this measure as previous studies found measurement invariance for the items of this measure across countries (e.g. Varela et al., 2010). A sample item was 'I adequately complete my assigned duties'. The variable was calculated as a simple average of the items (Germany α = .63; India α = .81; U.S. α = .90).

Extra-role performance

We used four items developed by Varela and Landis (2010) to measure this variable. We used this measure, as it is has shown high reliability and validity in previous studies and, appropriate to the EI research context of our study, this measure emphasizes extra-role behavior related to relevant others in the workplace. Each item was measured on a five-point Likerttype scale (1, 'strongly disagree', to 5, 'strongly agree'). A sample item was 'I assist and care for others in my workplace'. The measure was calculated as the unweighted average of the items (Germany α = .65; India α = .70; U.S. α = .74).

Job satisfaction

Job satisfaction was measured using five items developed by Bacharach et al. (1991). We selected this general measure of job satisfaction, as it captures the broad domain of job satisfaction and has shown high reliability and validity in previous studies (e.g. Janssen & Van Yperen, 2004). The seven-point response scale ranged from 1, 'very dissatisfied', to 7, 'very satisfied'. An example item is 'How satisfied or dissatisfied are you with your present job in light of your career expectations?' We calculated the measure using the simple average of the items (Germany α = .89; India α = .90; U.S. α = .94).

Control variables

In line with previous research, we included five control variables: Age, gender, education, work experience, and work role. Both theory and broad empirical evidence suggest that age is associated with different facets of job performance (e.g. Dobrow Riza et al., 2018; Ng & Feldman, 2008) and job satisfaction (e.g. Ng & Feldman, 2010b). Age was measured with five response categories (see Table 2). Theory and empirics also suggest that gender may be influential for job performance (Bowen et al., 2000) and job satisfaction (Dormann & Zapf, 2001). Gender was measured with a dichotomous variable coded '1' if the respondent was female and '0' if male. There is both theoretical argument and empirical evidence suggesting that the level of education may be related to various favorable and unfavorable attitudes and behaviors of employees (e.g. Ng & Feldman, 2009). Education was measured by asking participants to report their highest level of education and was assessed using seven categories (see Table 2). Previous research theoretically argued and empirically showed that work experiences and work roles are associated with different attitudes and behaviors of employees (e.g. Gunkel & Schlaegel, 2010; Ng & Feldman, 2010a). Work experience was measured by asking respondents to indicate the total number of years they had worked ('For approximately how many total years have you been employed (all jobs)?'). Work role was measured by asking participants to report whether or not they supervise employees in their current or most recent position (dummy coded: 1 = supervisor role, 0 = no supervisor role). The surveys also had each respondent identify their business area, the country of citizenship, and the country of birth.

Common method variance, measurement model, and measurement invariance

The present study used a self-report questionnaire in a cross-sectional research design with a single respondent, which may result in common method variance (Podsakoff et al., 2003). We followed the recommendations in the literature (e.g. Burton-Jones, 2009) and used different techniques and approaches in the design of the questionnaire and during the data collection to reduce common method variance. First, to avoid that respondents answered multiple consecutive items that assessed the same construct and to reduce hypothesis guessing, we used MTurk's ability to randomize the order of survey items. For the data collection in Germany we also varied the order of the questions in the online survey accordingly. Second, we used different response formats in the survey (e.g. different anchor points and Likert-type scales for the different constructs).

Third, we pretested and pilot-tested the questionnaire to ensure the clarity of instructions and items and assured respondents that their responses will be anonymous. As a *post hoc* analysis we conducted Harman's single-factor test and found no single factor that accounted for the majority of variance. The results show that the amount of variance explained using a single factor was well below the 50% threshold (Germany: 31%; India: 0%; U.S.: 27%). Next, we conducted a CFA in which we added a common latent factor to the measurement model. The common latent factor loadings were insignificant for the three countries. In summary, the results suggest that common method variance was not a significant problem in the dataset.

Measurement invariance is a necessary prerequisite for meaningful cross-cultural comparisons (Harzing et al., 2013; Nimon & Reio, 2011). Furthermore, prior research suggests that measurement invariance is an important factor in the examination of EI across cultures (e.g. Gunkel et al., 2014). To identify any issues related to country-specific components in the measurement model, we conducted CFA for each country using the *R lavaan* package and maximum likelihood estimation procedure. We followed the recommendations in the literature (e.g. Cheung & Rensvold, 2002; Sinkovics et al., 2016) and used several fit indexes to provide a complete assessment of model fit. We used the comparative fit index (CFI; .9 or higher) and the root mean square error of approximation (RMSEA; below .08). We used the results of individual country CFA to identify those items that build a baseline model for the multi-group confirmatory factor analysis (MGCFA). Consequently, intercorrelations, the analysis of item-total correlations, and the CFA results. For further analysis, we used a factor structure that was identical for all three countries. The CFA and MGCFA results are presented in Table 3.

The values of the CFI were above the .9 threshold and the RMSEAs were below the .08 threshold across samples. Overall, the CFA results of the revised measurement model indicate an acceptable fit. In examining measurement invariance, we tested configural invariance, metric invariance, and scalar invariance. Overall, the MGCFA results show that the measurement model and, consequently, the results of the analysis can be interpreted in the same way across samples.

Results

Tables 4–6 report the descriptive statistics and correlations. The results show substantial correlations between the four EI dimensions (Germany: .17 to .51; mean = .38; India: .62 to .72; mean = .67; U.S.: .47 to .73; mean = .59). These intercorrelations are comparable with average

Table 3. Results of confirmatory factor analysis and multi-group confirmatory factor analysis.

S	*N*	X^2	*df*	*p*	CFI	RMSEA	ΔCFI
CFA results							
German sample	285	638.925	340	.000	.904	.056	—
Indian sample	251	581.103	340	.000	.936	.053	—
U.S. sample	263	663.822	340	.000	.932	.060	—
MGCFA results							
Configural invariance	799	1883.849	1020	.000	.926	.056	—
Metric invariance	799	1983.241	1068	.000	.921	.057	.005
Scalar invariance	799	2202.519	1108	.000	.906	.061	.015

Note: CFA = Confirmatory factor analysis, MGCFA = Multi-group confirmatory factor analysis, *df* = Degrees of freedom, CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

correlation of .49 identified in prior meta-analytic studies (Elfenbein & MacCann, 2017).

Our analytic strategy involved two steps. In the first step, we conducted hierarchical regression analysis (a) to illustrate the differences in the results based on the unidimensional analytical approach (i.e. overall EI) and the multidimensional analytical approach (i.e. the four EI dimensions) and (b) to establish a benchmark against which we evaluate the results of the second analytical step, namely the commonality analysis. We use the results of commonality analysis to answer our first research questions. The commonality coefficients can be interpreted as effect sizes that are negligible (<1%), small (1 to 9%), moderate (10 to 25%), or large (>25%). We compare the findings of the commonality analysis across the three outcomes variables to answer the second research question. Finally we compare the findings across three countries to answer the third research question.

The unique and common effects of EI dimensions on in-role performance

Table 7 presents the results of regression analysis for in-role performance.

Model 1 included the five control variables. We focus on the incremental variance explained (*R2*) when adding overall EI (Model 2a) and the four EI dimensions (Model 2b) to the control variables. The control variables included in Model 1 explain less than 10% collectively across the samples. Adding overall EI in Model 2a explained a significant portion of variance and incremental variance for the German sample (18%; +12% points), the Indian sample (36%; +30% points), and the U.S. sample (31%; +23% points). Adding the four EI dimensions to the control variables in Model 2b explained a significant amount of variance and incremental variance for the German sample (19%; +13% points), the Indian sample (40%; +34% points), and the U.S. sample (38%; +30% points). The EI dimensions explained significantly more variance in in-

Table 4. Descriptive statistics and correlation coefficients for the German sample.

Variables	Mean	SD	*a*	AVE	CR	1	2	3	4	5	6	7	8	9	10	11	12
1 Age	3.08	0.82															
2 Gender	0.58	0.49				−.03											
3 Education	3.68	2.30				−.03	−.05										
4 Work experience	10.59	11.87				.80	−.02	−.27									
5 Work role	0.28	0.45				.03	.30	.20	.01								
6 Self-emotional appraisal	5.43	0.87	.75	.57	.84	.16	.05	−.03	.15	−.04							
7 Others' emotional appraisal	5.33	0.98	.86	.69	.90	.07	.18	−.02	.05	.01	.43						
8 Use of emotion	5.49	0.85	.70	.54	.81	.03	.02	.09	.05	.08	.47	.27					
9 Regulation of emotion	5.03	1.10	.84	.67	.89	.08	−.20	.01	.07	.07	.51	.17	.41				
10 Overall EI	5.32	0.69	.81	.51	.86	.12	.01	.02	.11	.04	.82	.64	.71	.74			
11 In-role performance	4.57	0.52	.63	.56	.79	.11	.08	.08	.16	−.05	.32	.19	.33	.23	.36		
12 Extra-role performance	4.16	0.60	.65	.55	.78	.16	.02	.08	.12	.20	.25	.32	.40	.21	40	.34	
13 Job satisfaction	5.07	1.41	.89	.70	.92	.12	-.06	-.03	.17	.06	.22	.10	.32	.31	.33	.21	.29

Note: $N = 285$. Gender is dummy coded with female = 1 and male = 0. Work role is dummy coded with supervisor role = 1 and no supervisor role = 0. Correlations below -.11 and above .11 are significant at $p < .05$. AVE = average variance extracted. CR = composite reliability.

Table 5. Descriptive statistics and correlation coefficients for the Indian sample.

Variables	Mean	SD	α	AVE	CR	1	2	3	4	5	6	7	8	9	10	11	**12**
1 Age	3.03	0.62															
2 Gender	0.27	0.45				.05											
3 Education	5.29	0.88				.14	.04										
4 Work experience	9.37	8.86				.58	.01	.09									
5 Work role	0.86	0.35				.15	.01	.07	.16								
6 Self-emotional appraisal	5.84	0.79	.80	.63	.87	.13	.05	.18	.18	.17							
7 Others' emotional appraisal	5.74	0.84	.84	.68	.89	.15	.10	.14	.17	.22	.66						
8 Use of emotion	5.88	0.83	.83	.67	.89	.11	.05	.14	.13	.24	.72	.66					
9 Regulation of emotion	5.58	0.95	.85	.69	.89	.14	.04	.11	.17	.16	.67	.62	.67				
10 Overall EI	5.76	0.74	.83	.67	.88	.15	.07	.16	.19	.23	.87	.85	.88	.86			
11 In-role performance	3.52	0.52	.81	.57	.87	.15	.05	.12	.21	.09	.53	.49	.60	.43	.59		
12 Extra-role performance	3.36	0.53	.70	.53	.82	.16	.07	.09	.19	.31	.50	.54	.59	.38	.57	.64	
13 Job satisfaction	5.46	0.98	.90	.71	.92	.14	.10	-.01	.18	.19	.40	.39	.51	.42	.49	.34	.47

Note: $N = 251$. Gender is dummy coded with female = 1 and male = 0. Work role is dummy coded with supervisor role = 1 and no supervisor role = 0. Correlations below −.13 and above .13 are significant at $p < .05$. AVE = average variance extracted. CR = composite reliability.

Table 6. Descriptive statistics and correlation coefficients for the U.S. sample.

Variables	Mean	SD	*a*	AVE	CR	1	2	3	4	5	6	7	8	9	10	11	12
1 Age	3.15	0.81															
2 Gender	0.59	0.49				.09											
3 Education	4.32	1.22				.04	−.07										
4 Work experience	14.72	11.06				.76	.01	−.09									
5 Work role	0.48	0.50				.04	.19	.01	.03								
6 Self-emotional appraisal	5.60	1.00	.89	.75	.92	.15	.08	.06	.11	−.05							
7 Others' emotional appraisal	5.42	0.97	.87	.72	.91	−.02	.23	−.07	−.05	−.04	.47						
8 Use of emotion	5.68	0.98	.84	.68	.89	.11	.15	.02	.06	.02	.73	.56					
9 Regulation of emotion	5.36	1.07	.86	.69	.90	.10	−.04	.07	.06	−.05	.70	.46	.64				
10 Overall EI	5.51	0.84	.93	.71	.91	.10	.12	.02	.06	−.04	.87	.74	.87	.85			
11 In-role performance	3.60	0.59	.90	.68	.91	.21	.14	.05	.17	−.15	.47	.31	.57	.34	.51		
12 Extra-role performance	2.92	0.81	.74	.57	.84	.01	.06	.03	−.01	.30	.37	.46	.49	.37	.51	.36	
13 Job satisfaction	4.73	1.53	.94	.79	.95	.03	.11	.14	.00	.08	.27	.29	.41	.27	.37	.22	.43

Note: $N = 263$. Gender is dummy coded with female = 1 and male = 0. Work role is dummy coded with supervisor role = 1 and no supervisor role = 0. Correlations below −.12 and above .12 are significant at $p < .05$. AVE = average variance extracted. CR = composite reliability.

Table 7. Results of regression analysis for in-role performance.

	Germany	India	U.S.	Germany	India	U.S.	Germany	India	U.S.
Variables	MI	M2a	M2b	MI	M2a	M2b	MI	M2a	M2b
Age	−.17 (.111)	-.19 (.111)-	.17 (.075)	.02 (.777)	.01 (.917)	.01 (.847)	.15 (.108)	.10 (.225)	.09 (.233)
Gender	.07 (.228)	.07 (.228)	.06 (.307)	−.05 (.429)	.01 (.828)	−.01 (.822)	−.10 (.108)	.05 (.388)	.00 (.945)
Education	.18 (.005)	.17 (.005)	.16 (.009)	.10 (.114)	.03 (.639)	.02 (.742)	.06 (.323)	.05 (.364)	.05 (.324)
Work experience	.35 (.001)	.33 (.001)	.31(.002)	.18 (.020)	.10 (.103)	.12 (.057)	.07 (.471)	.08 (.340)	.07 (.345)
Work role	-.06 (.362)	-.07 (.222)-	.07 (.231)	.05 (.406)	−.06 (.278)	−.08 (.130)	−.14 (.022)	−.13 (.015)	−.17 (.001)
Overall EI		.35 (.000)			.58 (.000)			.48 (.000)	
Self-emotional appraisal			.15 (.041)			.16 (.049)			.11 (.186)
Others' emotional appraisal			.05 (.435)			.11 (.128)			.01 (.868)
Use of emotion			.20 (.002)			.44 (.000)			.54 (.000)
Regulation of emotion			.07 (.296)			−.05 (.471)			−.11 (.149)
F	3.71 (.003)	10.30 (.000)	8.03 (.000)	3.14 (.009)	22.73 (.000)	19.95 (.000)	4.54 (.001)	18.69 (.000)	17.50 (.000)
R^2	.06	.18	.19	.06	.36	.40	.08	.31	.38
ΔR^2 (M1/M2a; M1/M2b)		.12 (.000)	.13 (.000)		.30 (.000)	.34 (.000)		.23 (.000)	.30 (.000)
A R2 (M2a/M2b)		.01 ($z = .39$; $p = .699$)			.04 ($z = 1.65$; $p = .100$)			.07 ($z = 2.84$; $p = .005$)	
R^2 *adjusted*	.05	.16	.17	.04	.34	.38	.06	.29	.36
N	285	285	285	251	251	251	263	263	263

Note: Gender is dummy coded with female = 1 and male = 0. Work role is dummy coded with supervisor = 1 and no supervisor = 0. The *p* values are shown in parentheses. For the comparison of Model 2a and Model 2b Steiger's *z* values are presented.

role-performance than overall EI for the Indian sample (+4% points) and the U.S. sample (+07% points) but not for the German sample (+1% point). The results show that while overall EI is significantly associated with in-role performance for all three countries, not all four EI dimensions contribute equally to the explained variance in in-role performance.

If only focusing on regression results, researchers may conclude that SEA and UOE are positively associated with in-role performance for both the German and the Indian sample and UOE for the U.S. sample but none of the other EI dimensions adds significantly to the explained variance. The results of the commonality analysis provide a more nuanced assessment of whether and how EI dimensions contribute to the explained variance in in-role performance. We used the statistical program R and the package 'yhat' to conduct commonality analysis (Nimon & Oswald, 2013). The results of the commonality analysis are presented in Table 8.

Table 8 provides the partitioning of the *R2* for in-role performance into unique, common, and total variance components of the four EI dimensions. Each commonality coefficient indicates how much variance of in-role performance is accounted for by the individual EI dimensions or sets of EI dimensions. The '% Total' column indicates how much of the regression effect is accounted for by the associated EI dimension or set of EI dimensions (commonality coefficient divided by the multiple *R2*). For example, for the German sample the largest contribution to explained variance is the variance unique to the UOE dimension (CC = .034). This means that 23% of the variance in in-role performance is associated with the variance that is uniquely explained by UOE. Three sets of two EI dimensions (second-order commonalities) and two sets of three EI dimensions (third-order commonalities) contribute to the explained variance in in-role performance for the German sample. The common effect of all four EI dimensions accounts for 8% of the variance (CC = .012).

A comparison of the unique and common effects shows that a substantial amount of the variance is uniquely associated with UOE across the three countries, even though the commonality coefficients vary substantially across countries. The second-order commonality of SEA and UOE contributes to the variance across all three countries. The commonality coefficients vary substantially across countries. Two of the third-order commonalities contribute to the explained variance across the three countries with substantially different commonality coefficients. The contribution of the common effect of all four EI dimension also varies across the three countries. In sum, while the structure of unique and

Table 8. Results of commonality analysis for in-role job performance.

Variables	Germany CC	Germany %Total	India CC	India %Total	U.S. CC	U.S. %Total
Unique effect						
Self-emotional appraisal (SEA)	**.018**	**12**	.012	3	.011	3
Others' emotional appraisal (OEA)	.002	1	.007	2	.000	0
Use of emotion (UOE)	**.034**	**23**	**.070**	**18**	**.106**	**31**
Regulation of emotion (ROE)	.001	1	.001	0	.005	2
Second-order commonalities						
SEA & OEA	**.008**	**5**	.007	2	.000	0
SEA & UOE	**.019**	**13**	**.040**	**10**	**.075**	**22**
SEA & ROE	**.008**	**6**	−.001	0	−.004	−1
OEA & UOE	.002	1	**.019**	**5**	.010	3
OEA & ROE	.000	0	−.001	0	.000	0
UOE & ROE	.005	4	.001	0	−.005	−2
Third-order commonalities						
SEA & OEA & UOE	**.012**	**8**	**.048**	**12**	**.020**	**6**
SEA & OEA & ROE	.002	1	.002	1	.000	0
SEA & UOE & ROE	**.026**	**17**	**.025**	**7**	**.054**	**16**
OEA & UOE & ROE	.000	0	.009	2	.000	0
Fourth-order commonality						
SEA & OEA & UOE & ROE	**.012**	**8**	**.148**	**38**	**.066**	**20**
Total effect						
Unique effects plus all common effects	.147	100	.387	100	.337	100

Note: The table reports the commonality coefficients (CC), which represent the respective explained variance for the unique and common effects. % Total = the percent of the total effect (relative explained variance). Commonality coefficients that account for at least five percent of the explained variance are given in bold.

common effects is comparable across the three countries, the unique and common effects and the total effect vary across countries. The results of the commonality analysis go beyond regression analysis. For example, while SEA has no significant association with in-role performance in the regression analysis, commonality analysis reveals that SEA contributes to the second-order, third- order, and fourth-order commonalities and together with other EI dimensions explains variances in this work outcome.

The unique and common effects of EI dimensions on extra-role performance

Table 9 presents the results of regression analysis for extra-role performance.

The control variables included in Model 1 explained between 7 to 12% collectively of the variation in extra-role performance across the samples. Adding overall EI in Model 2a explained a significant portion of variance and incremental variance for the German sample (21%; +14% points), the

Indian sample (37%; +25% points), and the U.S. sample (36%; +26% points). Adding the four EI dimensions to the control variables in Model 2b explained a significant amount of variance and incremental variance for the German sample (25%; +18% points), the Indian sample (43%; +31% points), and the U.S. sample (38%; +28% points). The EI

Table 9. Results of regression analysis for extra-role performance.

	Germany			India			U.S.		
Variables	M1	M2a	M2b	M1	M2a	M2b	M1	M2a	M2b
Age	.14 (.191)	.11 (.267)	.14 (.142)	.04 (.611)	.02 (.703)	.03 (.658)	−.01 (.910)	−.07 (.405)	−.05 (.530)
Gender	.09 (.161)	.08 (.694)	.03 (.552)	−.07 (.275)	−.03 (.542)	−.02 (.637)	.12 (.045)	.07 (.203)	.02 (.700)
Education	.06 (.396)	.05 (.449)	.03 (.672)	.05 (.401)	−.02 (.744)	−.03 (.605)	.04 (.523)	.03 (.615)	.05 (.376)
Work experience	.03 (.785)	.01 (.914)	−.01 (.953)	.12 (.122)	.05 (.455)	.06 (.302)	−.01 (.902)	.00 (.999)	.01 (.907)
Work role	.21 (.001)	.19 (.001)	.17 (.004)	.42 (.000)	.18 (.001)	.23 (.004)	.31 (.000)	.32 (.000)	.30 (.000)
Overall EI		.37 (.000)			.52 (.000)			.52 (.000)	
Self-emotional appraisal			−.03 (.655)			.11 (.154)			.01 (.936)
Others emotional appraisal			.22 (.000)			.24 (.001)			.28 (.000)
Use of emotion			.32 (.000)			.41 (.000)			.28 (.001)
Regulation of emotion			.04 (.502)			−.16 (.031)			.07 (.318)
F	4.28 (.001)	12.25 (.000)	12.25 (.000)	6.76 (.000)	23.48 (.000)	20.03 (.000)	5.52 (.000)	23.67 (.000)	17.46 (.000)
R^2	.07	.21	.25	.12	.37	.43	.10	.36	.38
ΔR^2 (M1/M2a; M1/M2b)		.14 (.000)	.18 (.000)		.25 (.000)	.31 (.000)		.26 (.000)	.28 (.000)
A R2 (M2a/M2b)		.04 ($z = 1.56$; $p = .118$)			.06 ($z = 2.47$; $p = .013$)			.02 ($z = .81$; $p = .417$)	
R^2 *adjusted*	.06	.19	.23	.10	.35	.41	.08	.34	.36
N	285	285	285	251	251	251	263	263	263

Note: Gender is dummy coded with female = 1 and male = 0. Work role is dummy coded with supervisor = 1 and no supervisor = 0. The *p* values are shown in parentheses. For the comparison of Model 2a and Model 2b Steiger's *z* values are presented.

Table 10. Results of commonality analysis for extra-role job performance.

Variables	Germany CC	%Total	India CC	%Total	U.S. CC	%Total
Unique effect						
Self-emotional appraisal (SEA)	.001	0	.005	1	.001	0
Others' emotional appraisal (OEA)	**.045**	**21**	**.037**	**9**	**.047**	**16**
Use of emotion (UOE)	**.080**	**38**	**.072**	**18**	**.042**	**15**
Regulation of emotion (ROE)	.002	1	.011	3	.002	1
Second-order commonalities						
SEA & OEA	.002	1	.011	3	.000	0
SEA & UOE	.002	1	.030	7	.006	2
SEA & ROE	−.001	0	−.003	−1	−.001	0
OEA & UOE	**.014**	**7**	**.039**	**10**	**.042**	**15**
OEA & ROE	−.001	−1	−.007	−2	.003	1
UOE & ROE	**.011**	**5**	−.010	−3	.006	2
Third-order commonalities						
SEA & OEA & UOE	**.022**	**11**	**.064**	**16**	**.018**	**6**
SEA & OEA & ROE	.002	1	−.001	0	.001	0
SEA & UOE & ROE	**.013**	**6**	.005	1	**.024**	**8**
OEA & UOE & ROE	−.002	−1	.010	2	.013	4
Fourth-order commonality						
SEA & OEA & UOE & ROE	**.020**	**10**	**.139**	**35**	**.088**	**30**
Total effect						
Unique effects plus all common effects	.210	100	.401	100	.292	100

Note: The table reports the commonality coefficients (CC), which represent the respective explained variance for the unique and common effects. % Total = the percent of the total effect (relative explained variance). Commonality coefficients that account for at least five percent of the explained variance are given in bold.

dimensions explained significantly more variance in extra-role-performance than overall EI for the German sample (+4% points), the Indian sample (+6% points), and the U.S. sample (+02% points). The results show that while overall EI is significantly associated with extra-role performance for all three countries, the four EI dimensions do not equally contribute to the explained variance in extra-role performance. Table 10 presents results of commonality analysis for extra-role performance.

OEA and UOE showed a unique contribution to the explained variance in extra-role performance across the three countries (the commonality coefficients vary substantially). The common effect of OEA and UOE contributed to the explained variance across the three countries. For the German and the Indian sample an additional set of EI dimensions also contributed to the explained variance but at a lower extent. The third-order commonality of SEA, OEA, and UOE contributed to the explained variance across the three countries. For the German and the U.S. sample the common effect of SEA, OEA, and ROE also contributed to the explained variance. The common effect of all four EI dimensions contributed to the explained variance in extra-role performance across all three countries but with substantially different commonality coefficients. Overall, while the structure of unique and common effects is comparable across the three countries (i.e. the same individual EI dimensions and the same sets of EI dimensions influence extra-role

performance), the strength of the unique and common effects and the total effect vary across countries.

The unique and common effects of EI dimensions on job satisfaction

Table 11 presents the results of regression analysis for job satisfaction.

The control variables in Model 1 collectively explained between 3 to 7% of the variation in job satisfaction. Adding overall EI in Model 2a explained a significant portion of variance and incremental variance for all samples (Germany: 13% +10% points; India: 27%; +20% points; U.S.: 17%; +13% points). Adding the four EI dimensions to the control variables in Model 2b explained a significant amount of variance and incremental variance for the three samples (Germany: 16%; +13% points; India: 30%; +23% points; U.S.: 21%; +17% points). The EI dimensions explained significantly more variance in job satisfaction than overall EI (Germany: +3% points; India: +3% points; U.S.: +04% points). Across the three samples the results show that while overall EI is significantly associated with job satisfaction, the four EI dimensions do not equally contribute to the explained variance. Table 12 presents the results of commonality analysis for job satisfaction.

UOE showed a unique contribution to the explained variance in job satisfaction across the three countries (the commonality coefficients again vary substantially). For the three country samples different sets of two EI dimensions (second-order commonality) contributed to the explained variance (German sample: SEA and UOE; Indian sample: UOE and ROE; U.S. sample: OEA and UOE). Two third-order commonalities (SEA, OEA, and UOE as well as SEA, UOE, and ROE) contributed to the explained variance across the three countries. The common effect of all four EI dimensions contributed to the explained variance in job satisfaction only for the Indian and the U.S. sample (with substantially different commonality coefficients). Taken together, while the structure of unique and common effects is comparable across the three countries, the strength of unique and common effects and the total effect vary across countries.

We conducted two robustness checks and examined the potential influence of unoberserved heterogeneity and endogeneity on our main findings. Following the approach proposed by Hair et al. (2016), the results of finite mixture (FIMIX) analyses for the three samples and the three outcomes suggests (1) two segments for job satisfaction for the German and the Indian sample, (2) two segments for extra-role performance for the Indian sample, and (3) two segments for the Indian sample as well as two to three segments for the U.S. sample for in-role performance. We conducted the regression analysis for the respective segments

Table 11. Results of regression analysis for job satisfaction.

Variables	Germany			India				U.S.	
	MI	M2a	M2b	MI	M2a	M2b	MI	M2a	M2b
Age	−.06 (.604)	−.08(.430)	−.05 (.654)	.04 (.586)	.03 (.667)	.03 (.635)	−.01(.929)	−.05 (.593)	−.04 (.648)
Gender	−.04 (.525)	−.05(.428)	−.01 (.857)	−.10 (.114)	.07 (.226)	−.07 (.201)	−.14 (.030)	.10 (.102)	−.07 (.285)
Education	.02 (.792)	.01 (.881)	−.01 (.850)	−.05 (.457)	−.11 (.054)	−.10 (.061)	.15 (.016)	.14 (.015)	.15 (.009)
Work experience	.21(.051)	.20 (.057)	.18 (.090)	.13 (.089)	.07 (.312)	.08 (.222)	.02 (.840)	.03 (.760)	.03 (.710)
Work role	.04 (.484)	.03 (.603)	.03 (.673)	.17 (.008)	.08 (.171)	.06 (.272)	.11(.094)	.11 (.055)	.09 (.142)
Overall EI		.31 (.000)			.47 (.000)			.37 (.000)	
Self-emotional appraisal			−.02 (835)			.01 (.937)			−.10 (.279)
Others' emotional appraisal			.01 (.903)			.04 (.635)			.10 (.174)
Use of emotion			.23 (.001)			.39 (.000)			.38 (.000)
Regulation of emotion			.21(.002)			.11 (.169)			.05 (.516)
F	1.93 (.090)	6.96 (.000)	6.64 (.000)	3.77 (.003)	15.27 (.000)	11.43 (.000)	2.38 (.039)	9.01 (.000)	7.39 (.000)
R^2	.03	.13	.16	.07	.27	.30	.04	.17	.21
ΔR^2 (M1/M2a; M1/M2b)		.10 (.000)	.13 (.000)		.20 (.000)	.23 (.000)		.13 (.000)	.17 (.000)
A R2 (M2a/M2b)		.03 ($z = 1.14$; $p = .255$)			.03 ($z = 1.18$; $p = .239$)			.04 ($z = 1.53$; $p = .126$)	
R^2 *adjusted*	.02	.11	.14	.05	.26	.27	.03	.16	.18
N	285	285	285	251	251	251	263	263	263

Note: Gender is dummy coded with female = 1 and male = 0. Work role is dummy coded with supervisor = 1 and no supervisor = 0. The *p* values are shown in parentheses. For the comparison of Model 2a and Model 2b Steiger's *z* values are presented.

Table 12. Results of commonality analysis for job satisfaction.

Variables	Germany CC	% Total	India CC	% Total	U.S. CC	% Total
Unique effect						
Self-emotional appraisal (SEA)	**.009**	**8**	.000	0	.003	2
Others' emotional appraisal (OEA)	.000	0	.001	1	.006	3
Use of emotion (UOE)	**.064**	**57**	**.059**	**22**	**.064**	**36**
Regulation of emotion (ROE)	.004	3	.007	3	.001	0
Second-order commonalities						
SEA & OEA	.000	0	.000	0	.000	0
SEA & UOE	**.020**	**l8**	.010	4	.002	1
SEA & ROE	−.003	−3	.001	0	−.001	0
OEA & UOE	.000	0	.010	4	**.022**	**l2**
OEA & ROE	.000	0	.002	1	.001	0
UOE & ROE	−.004	−3	**.0l8**	**7**	.005	3
Third-order commonalities						
SEA & OEA & UOE	**.007**	**6**	**.0l6**	**6**	**.008**	**5**
SEA & OEA & ROE	.000	0	.002	1	.000	0
SEA & UOE & ROE	**.0l2**	**ll**	**.026**	**9**	**.0l8**	**l0**
OEA & UOE & ROE	.000	0	**.0l5**	**5**	.006	4
Fourth-order commonality						
SEA & OEA & UOE & ROE	.003	3	**.l07**	**39**	**.043**	**24**
Total effect						
Unique effects plus all common effects	.113	100	.273	100	.177	100

Note: The table reports the commonality coefficients (CC), which represent the respective explained variance for the unique and common effects. % Total = the percent of the total effect (relative explained variance). Commonality coefficients that account for at least five percent of the explained variance are given in bold.

and found support for our initial findings in the larger segments and identified additional predictive EI dimensions in the smaller segments. Given the limited sample size and the limited number of control variables we were not able to further investigate the main characteristics of these segments. To assess the robustness of our results against the different sources of endogeneity we used a Gaussian copula approach (Park & Gupta, 2012). More specifically, we conducted all potential subset regression analysis and included the respective Copula variable(s) to assess whether endogeneity influences the particular variable(s) and how this bias affects our findings. Overall, the results suggest that while endogeneity is present for the German and the Indian samples, the bias does not seriously influence estimates in our analysis and the main findings remain robust.

Discussion

The main objective of the present study was to advance understanding of EI by uncovering the structure and composition of the association between the EI dimensions and job satisfaction as well as two job performance facets and to compare the findings across three outcomes and three samples from different countries. In answering our first exploratory research question (What is the structure and relevance of unique and common effects of EI dimensions for the three outcomes?) we revealed

the specific unique and common effects that contribute to the explained variance in job satisfaction and the job performance facets. Our results show that our novel approach extends the two existing empirical assessment of EI, revealing the unique and common contribution of the EI dimensions in explaining the three outcomes. In answering our second exploratory research question (Do the structure and relevance of unique and common effects vary across the three outcomes?) our findings reveal that those unique and common effects that predict job satisfaction, in-role performance, and extra-role performance often differ substantially in their relevance and contribution to the explained variance. In answering our third exploratory research question (Do the structure and relevance of unique and common effects on the three outcomes vary across the three countries?) our findings reveal that in general the structure of unique and common effects of EI dimensions for the three outcomes is comparable across countries (i.e. the same unique and common effects explain an outcome in different countries) but the relevance of these unique and common effects substantially varies across the three country samples. The findings have several implications for theory and research and offer avenues for further research.

Implications for theory and research

Our results have several implications for research. First, the theoretical conceptualization of EI as a multidimensional construct (Mayer & Salovey, 1995; Wong & Law, 2002) suggests that EI dimensions provide both unique and common information. Therefore, neither the unidimensional nor the multidimensional approach provides a complete understanding of the association of EI dimensions with work-related attitudes and behaviors. We integrate and extend both approaches to overcome their inherent limitations and advance and test a third approach that accounts for unique effects of the individual EI dimensions and the common effects of sets of two or more EI dimensions. Our findings showed that the four EI dimensions were differentially related to job satisfaction and the job performance facets, providing support for the theoretical conceptualization of EI as a multidimensional construct. The finding that unique effects of individual EI dimensions as well as the effects of sets of two and three EI dimensions account for a substantial amount of the explained variance across outcomes and across country samples highlight our point that this novel approach offers a more distinct and more precise understanding of EI effects and, this way, has the potential to advance theory in future research.

Given that the majority of previous studies focused on overall EI and the unidimensional approach, the empirical support for our approach is theoretically important as it demonstrates the added value of the individual EI dimensions and the value of integrating and extending the unidimensional and the multidimensional approach. A comparison of the results across the different outcomes examined in this study suggests that the relative importance of individual EI dimensions and sets of EI dimensions may depend on the outcome. Observing substantial differences in unique and common effects and, therewith, in the structure and relevance of these effects across job satisfaction and the two job performance facets supports recent calls for a more differentiated method of analysis for the rela-tion between EI dimensions and their outcomes (e.g. Cherniss, 2010; Greenidge et al., 2014; Matthews et al., 2007). Unique effects of individual EI dimensions explain significant parts of the variance in work outcomes, calling for a multidimensional approach that acknowledges *and* disentangles the effects of the individual EI dimensions. Common effects explain significant parts of variation in an outcome and are often the most relevant component of EI in term of predicting job satisfaction and job performance. Thus, a significant part of the positive effect of increasing an EI dimension will only be realized when one, two, or three other EI dimensions change accordingly.

Our analyses reveal the existence of not previously explicitly considered effects of two and three EI dimension sets that suggest an extension of the two dominant conceptualizations of EI. A statistically significant and practically relevant part of the explained variance in in-role performance can be attributed to the covariation between UOE and SEA; and a relevant part of the explained variance in extra-role performance can be attributed to the covariation between UOE and OEA. For job satisfaction our results indicate that sets of three EI dimensions explain variance in this outcome. In line with a mutualism perspective of intelligence, we observe that variations in the ROE that are not aligned with variations in the other EI dimensions (i.e. the unique contribution of ROE) do not lead to higher performance and satisfaction.

Our findings also highlight the potential problems that may result from differences in theorizing, testing, and interpreting the unique and common effects of EI dimensions. Commonality analysis provides new insights into the role of the individual EI dimensions. As our analyses reveal, the effects for individual EI dimensions might differ depending on whether or not researchers include the other EI dimensions, that is, whether they test unique or overall effects (i.e. the unique effect plus the effect of all sets of two and three EI dimension as well as the common effect of all four EI dimensions). The difference between unique and common effects not only

needs to be considered when interpreting results of regression analysis and SEM but also when theorizing about the effects of EI dimensions to ensure a fit between theories and utilized empirical approach. For example, future research should not hypothesize a positive association between ROE and job satisfaction based on the consideration that this EI dimension is aligned with SEA and OEA (i.e. theorizing about shared effects), and then test all four EI dimensions' unique effects on job satisfaction using a regression or SEM analysis that simultaneously includes the other three EI dimensions. Similarly, finding negative associations between an EI dimension and a work outcome when controlling for the other EI dimensions should not be taken as suggesting that this EI dimension hinders performance and satisfaction. Rather, it can be concluded that this specific EI dimension, which is not aligned with an increase in the other EI dimensions, hinders job performance and job satisfaction. This finding might explain some of the inconsistent find-ings in the EI literature.

In light of our findings, we recommend that researchers theorize on and statistically examine EI based on the unique and common effects of the individual EI dimensions based on commonality analysis. With free statistical packages and free extensions for commercial packages readily available, researchers can disentangle the complex interrelations of EI dimensions with different outcomes. For researchers that decide to theorize at the level of the overall construct (e.g. for reasons of parsimony) as minimum requirements we recommend to (a) report the correlations for all EI dimensions in addi-tion to overall EI, (b) describe how overall EI was calculated (e.g. average of dimensions, average across items, etc.), and (c) to conduct a commonality analysis and report the results for the primary analysis for the individual EI dimensions at least as robustness checks. The advantages of commonality analysis a more detailed understanding of how EI dimensions are associated with different outcomes need to be set against two limitations. First, commonality analysis is limited in the number of variables that can be effectively analyzed as the number of variance partitions increases rapidly as additional predictor variables are considered. For example, if researches are interested in the interplay of EI dimensions with another multidimensional construct, such as cultural intelligence, the high number of common effects complicates the interpretation of findings. Second, no statistical significance test for commonalities is available. We used a bootstrapping approach (5,000 replications) to calculate the 95% confidence intervals of commonality coefficients to evaluate the precision of the commonality coefficients. As the unique effects cannot be less than 0, the confidence interval provides information whether and to what degree the commonality coefficient of a CQ dimensions extends into the negligible range.

Limitations and directions for future research

The results of our study should be interpreted in light of the following limitations. First, our study is based on cross-sectional data from a single respondent. While job satisfaction is an attitudinal measure that should be answered by the respondent, in-role performance and extra-role performance are measures that could be rated by the supervisor. We encourage future research to use a longitudinal study design and to triangulate self-reported and other-reported measures. A second limitation of the study is that the data sets included in our study allow only a preliminary comparison across countries. Future research should aim at covering more countries to allow a more comprehensive cross-country comparison. Moreover, the three samples differ in the distribution of gender, age, work role, and industry. Based on latent class analysis we identified some degree of unobserved heterogeneity for the Indian and the U.S. sample. Due to sample size limitations we were not able to examine differences across segments within each sample. Therefore, we echo Cherniss (2010) call for research to examine the role of context in EI research. A third limitation is that while we were able to establish measurement invariance across the three samples, the reliabilities for the in-role performance and extra-role performance could be improved for the German sample. Therefore, future research should use outcome measures that have consistently proven their reliability in different national contexts. Moreover, in our study we focused on three specific consequences of EI. Prior research has shown that EI also determines other work-related attitudes and behaviors (e.g. Harms & Credé, 2010; Jordan & Troth, 2011). We encourage future research to decompose unique and common effects of EI dimensions for other relevant outcomes. Finally, given the exploratory nature of our study further research is needed to permit the drawing of more specific practical implications. Future research could examine which types of interventions are effective and most efficient in the development of specific EI dimensions and whether and to what degree mutual interrelations of EI dimensions also play a role in the formation of this ability.

Despite these limitations, our study extends the understanding of the interrelations between EI dimensions and the complex relationships between EI dimensions and different work-related attitudes and behaviors in different national contexts. We hope that the present study may be useful in paving the way toward a deeper understanding of unique and common effects of EI dimensions and may stimulate researchers' interest in this line of thinking and the methodology of commonality analysis.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

Ashkanasy, N. M., & Daus, C. S. (2005). Rumors of the death of emotional intelligence in organizational behavior are vastly exaggerated. *Journal of Organizational Behavior*, *26*(4), 441–452. https://doi.org/10.1002/job.320

Bacharach, S. B., Bamberger, P., & Conley, S. C. (1991). Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction at work. *Journal of Organizational Behavior*, *12*(1), 39–53. https://doi.org/10.1002/job.4030120104

Bohannon, J. (2016). Mechanical Turk upends social sciences. *Science (New York, N.Y.)*, *352*(6291), 1263–1264. https://doi.org/10.1126/science.352.6291.1263

Bowen, C. C., Swim, J. K., & Jacobs, R. R. (2000). Evaluating gender biases on actual job performance of real people: A meta-analysis. *Journal of Applied Social Psychology*, *30*(10), 2194–2215. https://doi.org/10.1111/j.1559-1816.2000.tb02432.x

Bozionelos, N., & Singh, S. K. (2017). The relationship of emotional intelligence with task and contextual performance: More than it meets the linear eye. *Personality and Individual Differences*, *116*(1), 206–211. https://doi.org/10.1016/j.paid.2017.04.059

Brislin, R. W. (1980). Translation and content analysis of oraland written material. In: H. C. Triandis & J. W. Berry (Eds.), *Handbook of cross-cultural psychology* (Vol.1, pp. 389–444). Allyn & Bacon.

Burton-Jones, A. (2009). Minimizing method bias through programmatic research. *MIS Quarterly*, *33*(3), 445–471.

Cherniss, C. (2010). Emotional intelligence: Toward clarification of a concept. *Industrial and Organizational Psychology*, *3*(2), 110–126. https://doi.org/10.1111/j.1754-9434.2010.01231.x

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. (2017). Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business and Psychology*, *32*(4), 347–361. https://doi.org/10.1007/s10869-016-9458-5

Conte, J. M. (2005). A review and critique of emotional intelligence measures. *Journal of Organizational Behavior*, *26*(4), 433–440. https://doi.org/10.1002/job.319

Devonish, D., & Greenidge, D. (2010). The effect of organizational justice on contextual performance, counterproductive work behaviors, and task performance: Investigating the moderating role of ability-based emotional intelligence. *International Journal of Selection and Assessment*, *18*(1), 75–86. https://doi.org/10.1111/j.1468-2389.2010.00490.x

Dobrow Riza, S., Ganzach, Y., & Liu, Y. (2018). Time and job satisfaction: A longitudinal study of the differential roles of age and tenure. *Journal of Management*, *44*(7), 2558–2579. https://doi.org/10.1177/0149206315624962

Dormann, C., & Zapf, D. (2001). Job satisfaction: A meta-analysis of stabilities. *Journal of Organizational Behavior*, *22*(5), 483–504. https://doi.org/10.1002/job.98

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, *41*(10), 1040–1048. https://doi.org/10.1037/0003-066X.41.10.1040

Elfenbein, H. A., & MacCann, C. (2017). A closer look at ability emotional intelligence (EI): What are its component parts, and how do they relate to each other? *Social and Personality Psychology Compass*, *11*(7), e12324. https://doi.org/10.1111/spc3.12324

Extremera, N., Quintana-Orts, C., Mérida-López, S., & Rey, L. (2018). Cyberbullying victimization, self-esteem and suicidal ideation in adolescence: Does emotional intelligence play a buffering role? *Frontiers in Psychology*, *9*, 367https://doi.org/10.3389/fpsyg.2018.00367

Franke, G. R., & Richey, R. G. (2010). Improving generalizations from multi-country comparisons in international business research. *Journal of International Business Studies*, *41*(8), 1275–1293. https://doi.org/10.1057/jibs.2010.21

Gibson, J. J. (1986). *The ecological approach to visual perception*. Erlbaum.

Goodman, J. K., Cryder, C. E., & Cheema, A. (2013). Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, *26*(3), 213–224. https://doi.org/10.1002/bdm.1753

Greenidge, D., Devonish, D., & Alleyne, P. (2014). The relationship between ability-based emotional intelligence and contextual performance and counterproductive work behaviors: A test of the mediating effects of job satisfaction. *Human Performance*, *27*(3), 225–242. https://doi.org/10.1080/08959285.2014.913591

Grewal, R., Cote, J. A., & Baumgartner, H. (2004). Multicollinearity and measurement error in structural equation models: Implications for theory testing. *Marketing Science*, *23*(4), 519–529. https://doi.org/10.1287/mksc.1040.0070

Güleryüz, G., Güney, S., Aydın, E. M., & Aşan, Ö. (2008). The mediating effect of job satisfaction between emotional intelligence and organisational commitment of nurses: A questionnaire survey. *International Journal of Nursing Studies*, *45*(11), 1625–1635. https://doi.org/10.1016/j.ijnurstu.2008.02.004

Gunkel, M., & Schlaegel, C. (2010). The influence of personality on students' career decisiveness—A comparison between Chinese and German economics and management students. *Management Revu*, *21*(3), 229–243. https://doi.org/10.5771/0935-9915-2010-3-229

Gunkel, M., Schlaegel, C., & Taras, V. (2016). Cultural values, emotional intelligence, and conflict handling styles: A global study. *Journal of World Business*, *51*(4), 568–585. https://doi.org/10.1016/j.jwb.2016.02.001

Gunkel, M., Schlägel, C., & Engle, R. L. (2014). Culture's influence on emotional intelligence: An empirical study of nine countries. *Journal of International Management*, *20*(2), 256–274. https://doi.org/10.1016/j.intman.2013.10.002

Guy, M. E., & Lee, H. J. (2015). How emotional intelligence mediates emotional labor in public service jobs. *Review of Public Personnel Administration*, *35*(3), 261–277. https://doi.org/10.1177/0734371X13514095

Hair, J. F., Jr, Sarstedt, M., Matthews, L. M., & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: Part I–method. *European Business Review*, *28*(1), 63–76.

Harms, P. D., & Credé, M. (2010). Emotional intelligence and transformational and transactional leadership: A meta-analysis. *Journal of Leadership & Organizational Studies*, *17*(1), 5–17. https://doi.org/10.1177/1548051809350894

Harzing, A. W. (2006). Response styles in cross-national survey research: A 26-country study. *International Journal of Cross Cultural Management*, *6*(2), 243–266. https://doi.org/10.1177/1470595806066332

Harzing, A. W., Reiche, B. S., & Pudelko, M. (2013). Challenges in international survey research: A review with illustrations and suggested solutions for best practice. *European J. of International Management*, *7*(1), 112–134. https://doi.org/10.1504/EJIM.2013.052090

Huang, X., Chan, S. C., Lam, W., & Nan, X. (2010). The joint effect of leader–member exchange and emotional intelligence on burnout and work performance in call centers in China. *The International Journal of Human Resource Management*, *21*(7), 1124–1144. https://doi.org/10.1080/09585191003783553

Huynh, A. C., Oakes, H., & Grossmann, I. (2018). The role of culture in understanding and evaluating emotional intelligence. In K. V. Keefer, J. D. Parker, & D. H. Saklofske (Eds.), *Handbook of emotional intelligence in education* (p. 111–132). Springer.

Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, *47*(3), 368–384.

Jordan, P. J., Ashkanasy, N. M., & Härtel, C. E. (2003). The case for emotional intelligence in organizational research. *The Academy of Management Review*, *28*(2), 195–197. https://doi.org/10.2307/30040707

Jordan, P. J., Dasborough, M. T., Daus, C. S., & Ashkanasy, N. M. (2010). A call to context. *Industrial and Organizational Psychology*, *3*(2), 145–148. https://doi.org/10.1111/j.1754-9434.2010.01215.x

Jordan, P. J., & Troth, A. (2011). Emotional intelligence and leader member exchange: The relationship with employee turnover intentions and job satisfaction. *Leadership & Organization Devel-Opment Journal*, *32*(3), 260–280.

Joseph, D. L., Jin, J., Newman, D. A., & O'Boyle, E. H. (2015). Why does self-reported emotional intelligence predict job performance? A meta-analytic investigation of mixed EI. *Journal of Applied Psychology*, *100*(2), 298–342. https://doi.org/10.1037/a0037681

Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *The Journal of Applied Psychology*, *95*(1), 54–78. https://doi.org/10.1037/a0017286

Kafetsios, K., Nezlek, J. B., & Vassiou, A. (2011). A multilevel analysis of relationships between leaders' and subordinates' emotional intelligence and emotional outcomes. *Journal of Applied Social Psychology*, *41*(5), 1121–1144. https://doi.org/10.1111/j.1559-1816.2011.00750.x

Kafetsios, K., & Zampetakis, L. A. (2008). Emotional intelligence and job satisfaction: Testing the mediatory role of positive and negative affect at work. *Personality and Individual Differences*, *44*(3), 712–722. https://doi.org/10.1016/j.paid.2007.10.004

Kalnins, A. (2018). Multicollinearity: How common factors cause Type 1 errors in multivariate regression. *Strategic Management Journal*, *39*(8), 2362–2385. https://doi.org/10.1002/smj.2783

Katz, D., & Kahn, R. L. (1966). *The social psychology of organizations*. Wiley.

Khalid, J., Khaleel, M., Ali, A. J., & Islam, M. S. (2018). Multiple dimensions of emotional intelligence and their impacts on organizational commitment and job performance. *International Journal of Ethics and Systems*, *34*(2), 221–232. https://doi.org/10.1108/IJOES-07-2017-0096

Kraha, A., Turner, H., Nimon, K., Zientek, L., & Henson, R. (2012). Tools to support interpreting multiple regression in the face of multicollinearity. *Frontiers in Psychology*, *3*, 44. https://doi.org/10.3389/fpsyg.2012.00044

LaPalme, M. L., Wang, W., Joseph, D. L., Saklofske, D. H., & Yan, G. (2016). Measurement equivalence of the Wong and law emotional intelligence scale across cultures: An item response theory approach. *Personality and Individual Differences*, *90*, 190–198. https://doi.org/10.1016/j.paid.2015.10.045

Law, K. S., Wong, C. S., Huang, G. H., & Li, X. (2008). The effects of emotional intelligence on job performance and life satisfaction for the research and development scientists in China. *Asia Pacific Journal of Management*, *25*(1), 51–69. https://doi.org/10.1007/s10490-007-9062-3

Law, K. S., Wong, C. S., & Song, L. J. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies. *Journal of Applied Psychology*, *89*(3), 483–496. https://doi.org/10.1037/0021-9010.89.3.483

Lee, H. J. (2018). How emotional intelligence relates to job satisfaction and burnout in public service jobs. *International Review of Administrative Sciences*, *84*(4), 729–745. https://doi.org/10.1177/0020852316670489

Lee, Y. H., & Chelladurai, P. (2018). Emotional intelligence, emotional labor, coach burnout, job satisfaction, and turnover intention in sport leadership. *European Sport Management Quarterly*, *18*(4), 393–412. https://doi.org/10.1080/16184742.2017.1406971

Libbrecht, N., Beuckelaer, A. D., Lievens, F., & Rockstuhl, T. (2014). Measurement invariance of the Wong and law emotional intelligence scale scores: Does the measurement structure hold across far Eastern and European countries? *Applied Psychology*, *63*(2), 223–237. https://doi.org/10.1111/j.1464-0597.2012.00513.x

Locander, D. A., Mulki, J. P., & Weinberg, F. J. (2014). How do salespeople make decisions? The role of emotions and deliberation on adaptive selling, and the moderating role of intuition. *Psychology & Marketing*, *31*(6), 387–403. https://doi.org/10.1002/mar.20702

Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational behavior* (pp. 1297–1349). Rand McNally.

Matthews, G., Zeidner, M., & Roberts, R. D. (2007). Measuring emotional intelligence: Promises, pitfalls, solutions. In A. D. Ong & M. vanDulmen (Eds.), *Handbook of methods in positive psychology* (p. 189–204). Oxford University Press.

Mayer, J. D., Caruso, D. R., & Salovey, P. (2000). Selecting a measure of emotional intelligence: The case for ability scales. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (p. 320–342)

Mayer, J. D., & Salovey, P. (1995). Emotional intelligence and the construction and regulation of feelings. *Applied and Preventive Psychology*, *4*(3), 197–208. https://doi.org/10.1016/S0962-1849(05)80058-7

Meisler, G., & Vigoda-Gadot, E. (2014). Perceived organizational politics, emotional intelligence and work outcomes: Empirical exploration of direct and indirect effects. *Personnel Review*, *43*(1), 116–135. https://doi.org/10.1108/PR-02-2012-0040

Miao, C., Humphrey, R. H., & Qian, S. (2017). A meta-analysis of emotional intelligence and work attitudes. *Journal of Occupational and Organizational Psychology*, *90*(2), 177–202. https://doi.org/10.1111/joop.12167

Mood, A. M. (1969). Macro-analysis of the American educational system. *Operations Research*, *17*(5), 770–784. https://doi.org/10.1287/opre.17.5.770

Mulki, J. P., Jaramillo, F., Goad, E. A., & Pesquera, M. R. (2015). Regulation of emotions, interpersonal conflict, and job performance for salespeople. *Journal of Business Research*, *68*(3), 623–630. https://doi.org/10.1016/j.jbusres.2014.08.009

Ng, T. W., & Feldman, D. C. (2008). The relationship of age to ten dimensions of job performance. *The Journal of Applied Psychology*, *93*(2), 392–423. https://doi.org/10.1037/0021-9010.93.2.392

Ng, T. W., & Feldman, D. C. (2009). How broadly does education contribute to job performance? *Personnel Psychology*, *62*(1), 89–134. https://doi.org/10.1111/j.1744-6570.2008.01130.x

Ng, T. W., & Feldman, D. C. (2010a). Organizational tenure and job performance. *Journal of Management*, *36*(5), 1220–1250. https://doi.org/10.1177/0149206309359809

Ng, T. W., & Feldman, D. C. (2010b). The relationships of age with job attitudes: A meta-analysis. *Personnel Psychology*, *63*(3), 677–718. https://doi.org/10.1111/j.1744-6570.2010.01184.x

Nimon, K. (2011). Improving the quality of quantitative research reports: A call for action. *Human Resource Development Quarterly*, *22*(4), 387–394. https://doi.org/10.1002/hrdq.20091

Nimon, K., & Reio, T. G. Jr, (2011). Regression commonality analysis: A technique for quantitative theory building. *Human Resource Development Review*, *10*(3), 329–340. https://doi.org/10.1177/1534484311411077

Nimon, K. F., & Oswald, F. L. (2013). Understanding the results of multiple linear regression: Beyond standardized regression coefficients. *Organizational Research Methods*, *16*(4), 650–674. https://doi.org/10.1177/1094428113493929

O'Boyle, E. H., Humphrey, R. H., Pollack, J. M., Hawver, T. H., & Story, P. A. (2011). The relation between emotional intelligence and job performance: A meta-analysis. *Journal of Organizational Behavior*, *32*(5), 788–818. https://doi.org/10.1002/job.714

Park, S., & Gupta, S. (2012). Handling endogenous regressors by joint estimation using copulas. *Marketing Science*, *31*(4), 567–586. https://doi.org/10.1287/mksc.1120.0718

Pekaar, K. A., van der Linden, D., Bakker, A. B., & Born, M. P. (2017). Emotional intelligence and job performance: The role of enactment and focus on others' emotions. *Human Performance*, *30*(2-3), 135–153. https://doi.org/10.1080/08959285.2017.1332630

Pérez, J. C., Petrides, K. V., & Furnham, A. (2005). Measuring trait emotional intelligence. In R. Schulze & R. D. Roberts (Eds.), *International Handbook of Emotional Intelligence*. Hogrefe & Huber.

Podsakoff, P. M., Mackenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Ronen, S., & Shenkar, O. (2013). Mapping world cultures: Cluster formation, sources and implications. *Journal of International Business Studies*, *44*(9), 867–897. https://doi.org/10.1057/jibs.2013.42

Rousseau, D. M., & Fried, Y. (2001). Location, location, location: Contextualizing organizational research. *Journal of Organizational Behavior*, *22*(1), 1–13. https://doi.org/10.1002/job.78

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, *9*(3), 185–211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG

Schneider, W. J., & Newman, D. A. (2015). Intelligence is multidimensional: Theoretical review and implications of specific cognitive abilities. *Human Resource Management Review*, *25*(1), 12–27. https://doi.org/10.1016/j.hrmr.2014.09.004

Schoen, J. L., DeSimone, J. A., & James, L. R. (2011). Exploring joint variance between independent variables and a criterion: Meaning, effect, and size. *Organizational Research Methods*, *14*(4), 674–695. https://doi.org/10.1177/1094428110381787

Seibold, D. R., & McPhee, R. D. (1979). Commonality analysis: A method for decomposing explained variance in multiple regression analyses. *Human Communication Research*, *5*(4), 355–365. https://doi.org/10.1111/j.1468-2958.1979.tb00649.x

Shamsuddin, N., & Rahman, R. A. (2014). The relationship between emotional intelligence and job performance of call centre agents. Procedia - *Social and Behavioral Sciences*, *129*, 75–81. https://doi.org/10.1016/j.sbspro.2014.03.650

Shao, B., Doucet, L., & Caruso, D. R. (2015). Universality versus cultural specificity of three emotion domains: Some evidence based on the cascading model of emotional intelligence. *Journal of Cross-Cultural Psychology*, *46*(2), 229–251. https://doi.org/10.1177/0022022114557479

Sinkovics, R. R., Richter, N. F., Ringle, C. M., & Schlaegel, C. (2016). A critical look at the use of SEM in international business research. *International Marketing Review*, *33*(3), 376–404.

Sun, P., Chen, J. J., & Jiang, H. (2017). Coping humor as a mediator between emotional intelligence and job satisfaction: A study on Chinese primary school teachers. *Journal of Personnel Psychology*, *16*(3), 155–159. https://doi.org/10.1027/1866-5888/a000185

Sy, T., Tram, S., & O'Hara, L. A. (2006). Relation of employee and manager emotional intelligence to job satisfaction and performance. *Journal of Vocational Behavior*, *68*(3), 461–473. https://doi.org/10.1016/j.jvb.2005.10.003

Taras, V., Steel, P., & Kirkman, B. L. (2011). Three decades of research on national culture in the workplace: Do the differences still make a difference. *Organizational Dynamics*, *40*(3), 189–198. https://doi.org/10.1016/j.orgdyn.2011.04.006

Trivellas, P., Gerogiannis, V., & Svarna, S. (2013). Exploring workplace implications of Emotional Intelligence (WLEIS) in hospitals: Job satisfaction and turnover Intentions. *Procedia - Social and Behavioral Sciences*, *73*, 701–709. https://doi.org/10.1016/j.sbspro.2013.02.108

Tsui, A. S. (2007). From homogenization to pluralism: International management research in the academy and beyond. *Academy of Management Journal*, *50*(6), 1353–1364. https://doi.org/10.5465/amj.2007.28166121

Tsui, A. S., Nifadkar, S. S., & Ou, A. Y. (2007). Cross-national, cross-cultural organizational behavior research: Advances, gaps, and recommendations. *Journal of Management*, *33*(3), 426–478. https://doi.org/10.1177/0149206307300818

Uslu, O., & Uslu, M. (2019). The impact of emotional intelligence on employees' attitudes. *Journal of Applied Management and Investments*, *8*(1), 32–43.

Van Der Maas, H. L., Dolan, C. V., Grasman, R. P., Wicherts, J. M., Huizenga, H. M., & Raijmakers, M. E. (2006). A dynamical model of general intelligence: The positive manifold of intelligence by mutualism. *Psychological Review*, *113*(4), 842–861. https://doi.org/10.1037/0033-295X.113.4.842

Van Rooy, D. L., & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior*, *65*(1), 71–95. https://doi.org/10.1016/S0001-8791(03)00076-9

Varela, O. E., & Landis, R. S. (2010). A general structure of job performance: Evidence from two studies. *Journal of business and psychology*, *25*(4), 625–638.

Varela, O. E., Salgado, E. I., & Lasio, M. V. (2010). The meaning of job performance in collectivistic and high power distance cultures: Evidence from three Latin American countries. *Cross Cultural Management: An International Journal*, *17*(4), 407–426. https://doi.org/10.1108/13527601011086603

Whetten, D. A. (2009). An examination of the interface between context and theory applied to the study of Chinese organizations. *Management and Organization Review*, *5*(1), 29–56. https://doi.org/10.1111/j.1740-8784.2008.00132.x

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, *17*(3), 601–617. https://doi.org/10.1177/014920639101700305

Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, *13*(3), 243–274. https://doi.org/10.1016/S1048-9843(02)00099-1

Yan, X., Yang, K., Su, J., Luo, Z., & Wen, Z. (2018). Mediating role of emotional intelligence on the associations between core self-evaluations and job satisfaction, work engagement as indices of work-related well-being. *Current Psychology*, *37*(3), 552–558. https://doi.org/10.1007/s12144-016-9531-2

Ybarra, O., Kross, E., & Sanchez-Burks, J. (2014). The "big idea" that is yet to be: Toward a more motivated, contextual, and dynamic model of emotional intelligence. *Academy of Management Perspectives*, *28*(2), 93–107. https://doi.org/10.5465/amp.2012.0106