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Culture's Influence on Emotional Intelligence: An Empirical Study of Nine Countries

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ABSTRACT

While a large body of research has examined the outcomes of emotional intelligence, relatively little is known about the antecedents of emotional intelligence. Prior research suggests that emotional intelligence has different effects on management outcomes in different cultural contexts, but lacks a systematic analysis of the effect of cultural values in the development of emotional intelligence. Utilizing a sample of 2067 individuals in nine countries, the present study explores the influence of cultural dimensions on emotional intelligence. Our results show that especially collectivism, uncertainty avoidance, and long-term orientation have a positive influence on the different dimensions of emotional intelligence. Theoretical and practical implications of these findings are discussed and future research directions are provided.

1. Introduction

Culture determines the values and norms of individuals. What is considered important in a society is therefore determined to a great degree by culture. Consequently, the societal norms also determine the meaning of emotions and the controlling of them (Eid and Diener, 2001). Especially which kinds of emotions are openly shown and how emotions are communicated differ grossly across cultures (Matsumoto, 1989). Emotionally intelligent individuals are able to code and decode own and others' emotions as they are displayed in the society. Emotional intelligence (hereafter EI) can be viewed as a crucial aspect for successful management. It is a key aspect affecting the performance of leaders; EI of leaders has a positive effect on the job satisfaction of their followers (Wong and Law, 2002), as well as a wide range of other job-related behaviors and outcomes (Abraham, 2005; Cherniss and Goleman, 2001; Goleman, 1998).

Along with globalization, firms employ labor from various cultural settings. The monitoring of own and others' emotions becomes a difficult task, which, however, might be critical for the success of an organization. The human resource management of an internationally active organization has to face the challenge of finding a management team who is emotionally intelligent in various cultural settings. But so far, very little is known about the cross-cultural differences in EI. That is, how does the national culture influence the EI of individuals? While EI is clearly a topic of international interest (Schulze and Roberts, 2005), this lack of knowledge on cultural impacts on EI has been identified in the literature (e.g., Antonakis, 2003, 2004; Prati et al., 2003; Salovey, 2005) as an area which needs to be addressed.

Our study aims at providing a deeper understanding of how national cultural values influence EI. Even though previous literature has shown that EI has an important influence on work outcomes in different cultural contexts (e.g., Bell, 2007; Harms and Credé, 2010; Joseph and Newman, 2010; O'Boyle et al., 2011; Schlaerth et al., 2013; Van Rooy and Viswesvaran, 2004; Walter

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et al., 2011), the effect of cultural values on EI has not been examined across national cultures. Nevertheless, the topic is of crucial importance as more and more organizations have individuals who interact with global partners, work in multicultural teams, or communicate with international stakeholders of the organization.

Understanding what determines EI is of interest to the human resource management of the organization in order to increase the job satisfaction of employees and also to positively influence their performance. Therefore, the purpose of our study is to contribute to this gap in the literature by comparing university students across cultures so as to determine how cultural dimension influences the EI of individuals. The results of our study contribute to the existing management literature by examining culture's influence on the determinants of EI. Therefore, our study helps the human resource management of organizations to understand how to assess candidates for management positions, especially when it comes to the pivotal skill to leadership success — emotional intelligence. The influence of national culture on emotional intelligence of employees provides a guide for assessing the specific needs of training in different cultural settings. Employees in countries that score low in the cultural dimensions positively related to emotional intelligence may have a larger need for emotional intelligence training. As the cultural dimensions have different influence on the various facets of emotional intelligence, training programs can be designed more specifically to fit the need of the employees in certain countries.

2. Theoretical background

Contemporary theories on intelligence, such as the one by Gardner (1993), view intelligence as a multifaceted concept. Intelligence is not measured only as a cognitive intelligence but by considering various dimensions. For example, Gardner (1993) discusses seven types of intelligence: Logical–mathematical intelligence, linguistic intelligence, spatial intelligence, musical intelligence, bodily-kinesthetic intelligence, interpersonal intelligence, and intrapersonal intelligence. It has been suggested that culture determines the emphasis placed on the various types of intelligence in the society (e.g., Furnham, 2001).

Emotional intelligence, "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey and Mayer, 1990: 189), is a type of intelligence which corresponds to Gardner's (1993) interpersonal and intrapersonal intelligences (Schutte et al., 1998). According to Salovey and Mayer (1990) and Mayer and Salovey (1997) EI is composed of four dimensions: 1) Appraisal and expression of emotion in the self — self emotional appraisal, 2) appraisal and recognition of emotion in others — others' emotional appraisal, 3) regulation of emotion in the self — regulation of emotion, and 4) use of emotion to facilitate performance — use of emotion.

Wong and Law (2002) recognize the need for a theory, which connects the concept of EI to organizational outcomes. Following Gross' model of emotion regulation (Gross, 1998a,b), they model the influence of EI on work outcomes and test the model empirically. Wong and Law's (2002) model proposes that emotionally intelligent employees are able to revise their perceptions about their work environment. The perceptions affect the emotions of the individuals, which can be regulated by the people that the employees select to interact with, by the work environment itself, by focusing on specific aspects of the work environment, or by changing the evaluation of the work environment (antecedent-focused emotion regulation). Employees can also change the influence of an emotional stimulus from the work environment by intensifying, diminishing, prolonging, or curtailing certain emotions (response-focused emotion regulation). Employees with high EI can use such regulation of emotions to create positive emotions and promote emotional and intellectual growth; they can make use of emotion regulation. Employees with low EI have slower emotional growth due to the fact that they are not able to regulate their emotions effectively. There has been significant research which supports the importance of EI in the workplace with impacts of EI seen in the areas of personal selection, leadership, workgroup cohesion, performance feedback, organizational commitment, organizational citizenship, and job control (Abraham, 2005). Cherniss' (2001) research suggests that EI has a broad influence on organizational effectiveness across a wide range of organizational activities including teamwork, innovation, productivity, sales, quality service, and customer loyalty. This work along with that of others supports the view of Wong and Law (2002) that for virtually any organization it is of crucial importance to hire employees with high levels of EI to realize the many benefits of an emotionally intelligent workforce.

Given this suggested importance of EI, it is therefore perhaps surprising that little is known about the antecedents of EI. The existing literature on EI has not been able to identify any antecedents of EI apart from the parents' EI (Vernon et al., 2008). So far, there has been theoretical discussion in the literature as to how EI may develop, nevertheless, there is a clear need for studies examining the antecedents of EI (Barbuto and Bugenhagen, 2009). The topic is not only of interest to theory but also to the business community as more and more organizations are having a multi-cultural work force.

Ang et al. (2007) propose that a person, who is emotionally intelligent in one culture, might not be that in another one. One's norms and values determine the central importance in life, and thereby, influence the manner in which emotions are appraised, recognized, and used. Also meta-analytic evidence suggests that cultural beliefs and values impact emotions, perceptions, and cognitive schema (Taras et al., 2010). That implies that culture has an influence on EI, and therefore, can be seen as an antecedent of EI. The way emotions are displayed and dealt with in various countries has been shown to be influenced by the culture of the countries (see, e.g., Matsumoto, 1989). Previous literature has discussed the influence of three of the five dimensions of Hofstede (individualism, power distance, masculinity, uncertainty avoidance, and long-term orientation) on the display and judgment of emotions (see, e.g., Fernández-Berrocal et al., 2005; Matsumoto, 1989). So far, the influence of culture on EI has remained widely unexplored. The literature on emotions and culture has been focused only on the two facets of the model of EI, namely the perceiving and expressing emotions (see, e.g., Palmer et al., 2008). This, however, leads us to suspect that EI is a concept which is also influenced by culture. Since studies have indicated that intelligence is affected by culture (Crowne et al., 2009), nevertheless, only few efforts (e.g., Crowne et al., 2011) have been taken to examine the influence of culture on the formation of emotional

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intelligence. Our study will examine how Hofstede's (2001) cultural dimensions, operationalized at the individual level, influence EI across a broad group of countries.

Alongside with the concept of EI, another intelligence, cultural intelligence (hereafter CQ) has gained importance. Especially when it comes to global leadership success, not only analytical intelligence, but also EI and CQ play a key role in the formation of success (Alon and Higgins, 2005). CQ is known as a "person's capability to adapt effectively to new cultural contexts" (Earley and Ang, 2003: 59). As mentioned above, being emotionally intelligent in one culture does not imply that one would be emotionally intelligent in other cultures. There is a line of literature examining the relationship between EI and CQ (Crowne, 2009, 2013; Moon, 2010). These concepts are also seen as components of social intelligence (Crowne, 2009). The studies have shown that the concepts of EI and CQ are distinct but related constructs; specific factors of EI are related to the specific factors of CQ (Crowne, 2013; Moon, 2010). The concepts of EI and CQ are distinct concepts (Moon, 2010) and, therefore, our study focuses only on EI. Given the related factors in CQ, examining the antecedents of EI will provide also insights to understanding the formation of some specific factors of CQ.

Culture can be defined as the "collective programming of the mind which distinguishes one group from another" (Hofstede, 1980: 25). It sets the basic values and norms for a society. It is a system to transfer meaning and information to its members (Matsumoto et al., 2008). Hofstede (2001) distinguishes between five dimensions of culture: Individualism vs. collectivism, masculinity vs. femininity, power distance, uncertainty avoidance, and short-term vs. long-term orientation. The dimensions of Hofstede have been found to reflect the fundamental dimensions of culture (Taras et al., 2010). These dimensions have been the basis for the research on culture's influence on emotions (see, e.g., Fernández-Berrocal et al., 2005; Matsumoto, 1989, 1990; Matsumoto et al., 2007), and therefore, serve as an appropriate basis for the analysis of the connection between these dimensions and culture.

While previous studies propose that EI is defined by cultural norms and values (e.g., Mayer and Geher, 1996; Mayer et al., 2000; Offermann and Phan, 2002), the literature on EI lacks a theoretical understanding of the process on how national culture affects EI. Oyserman et al. (2002) provide an overview on how psychology is influenced by culture (Fig. 1). They propose that the social sciences' approach on modeling and studying culture considers culture as an external influence resulting from the social environments in which individuals live their lives. Culture can be considered to exist at the individual level, at the societal level, at the social institution level, and at social situation-level. Nevertheless, considering these four approaches might not be complete, since the situation is not evaluated. Therefore, Oyserman et al. (2002) add the subject construal of the situation in their model. The construal of the situation, which is the way in which individuals see and evaluate situations, might be influenced by culture. By adding this element to their model, Oyserman et al. (2002) integrate cultural psychology and social cognition. The connection between the subject construal of the situation and the cognitive, affective, and behavioral consequences is the main interest of cultural psychology. It may provide a more comprehensive understanding on how culture influences the way the mind works, which is also the key interest in examining the influence of culture on EI.

2.1. Culture and self emotional appraisal

Self emotional appraisal describes individuals' ability to understand and express their emotions. Though emotions are biologically programmed, controlling the expression of emotions is determined by culture (Matsumoto, 1989). Emotions are shaped and maintained by culture (Kitayama and Markus, 1994). The communication of emotions significantly differs across cultures. Individualistic cultures stress the needs of individuals, and therefore, emphasize the emotional world of an individual. A balance between positive and negative emotions is searched for. The type of emotion, however, seems to play a great role in the

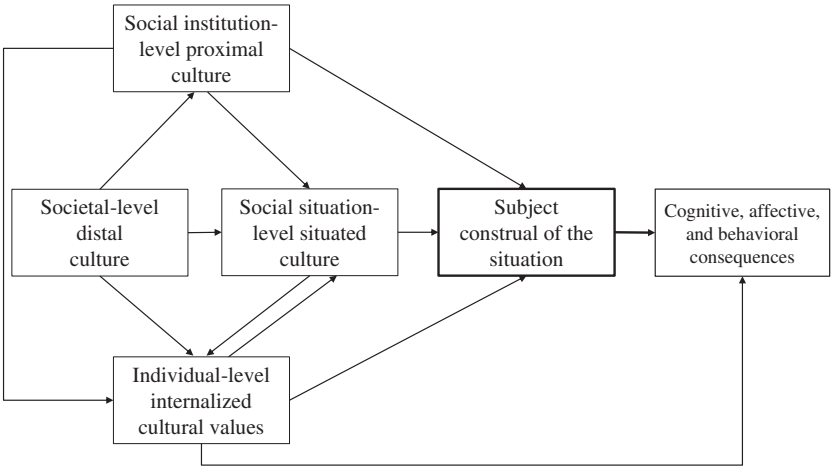

Fig. 1. Socially contextual model of cultural influences.
Modified from Oyserman et al. (2002)

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display of emotions. For example, Matsumoto (1990) showed that American individuals (high individualism) found negative emotions in in-groups and happiness to out-groups to be more appropriate emotions to show than did their Japanese counterparts. Nevertheless, Japanese rated anger to out-groups more appropriate than did the American participants of the study. In collective cultures, the cohesion with peers is of high importance and, therefore, less attention is paid on the emotional world of individuals (Fernández-Berrocal et al., 2005). Hofstede (2001) proposes that countries with high uncertainty avoidance (high anxiety level) have created social systems which allow the expression of emotions and the expression of emotion is considered as normal. Cultures scoring high on uncertainty avoidance are more expressive cultures where emotions are displayed clearly (Palmer et al., 2008; Sharma et al., 2009). Countries with high femininity show a greater emotional intensity and expressiveness than masculine countries (Paez and Vergara, 1995). In addition, feminine nations seem to be associated with higher frequency of positive emotions than negative ones (Basabe et al., 2000). Power distance has been shown to influence the fact as to whom emotions are shown. Matsumoto (1990) showed that Japanese employees (high power distance) found showing negative emotions toward lower-status others appropriate. They, however, surpass their negative emotions in presence of higher-status others (Ekman, 1972). Hofstede (1991) notes that individualism is associated with low power distance, whereas collectivism is associated with high power distance. Matsumoto et al. (2007) demonstrate that long-term orientation is related to lowered emotional expressivity. That is, emotions in general are not shown as openly in long-term oriented cultures. Nevertheless, a purposefully low expressivity of emotions still does not necessarily mean that one would not recognize the emotions. Actually, it may be that emotions are well recognized, but it is not desirable to show them. It is well known that the decision on which emotions we display and to whom we display them is influenced by culture. Therefore, we propose the following hypotheses:

Hypothesis 1a (H1a). Collectivism is negatively related to self emotional appraisal.

Hypothesis 1b (H1b). Masculinity is negatively related to self emotional appraisal.

Hypothesis 1c (H1c). Power distance is negatively related to self emotional appraisal.

Hypothesis 1d (H1d). Uncertainty avoidance is positively related to self emotional appraisal.

Hypothesis 1e (H1e). Long-term orientation is positively related to self emotional appraisal.

2.2. Culture and others' emotional appraisal

Cultural variation on the accuracy on emotion recognition has been shown to vary (Elfenbein and Ambady, 2003) and at the same time emotional expression may contain nonverbal accents that can provide indications of the expresser's culture (Marsh et al., 2003). Thus, the topic of others' emotional appraisal may be seen as a complicated issue, as culture also influences the expression of emotions; emotions might be expressed in various ways in different cultures. In his study on the recognition of emotion in facial expression, Matsumoto (1989) examined how different cultures recognize emotions of others and found that individualism was positively correlated with identifying happiness and negatively correlated with identifying sadness. That is, individualistic cultures are not able to identify all kinds of emotions, especially the negative ones. Matsumoto (1989) shows that power distance is negatively correlated to identifying the facial expression of happiness. Low power distance cultures value equality (Hofstede, 2001) and might therefore tolerate as well as observe others' emotions better than individuals from high power distance cultures. Schimmack (1996) shows that uncertainty avoidance is related to the accuracy in predicting emotions; high uncertainty avoidance was related to lower recognition of the correct emotion. This is supported by Matsumoto's (1989) argument, that high uncertainty avoidance countries have created institutions to deal with emotions, and therefore, they might have difficulties in recognizing the emotions of others. According to Hofstede (2001), femininity is related to good work relationships with others and cooperation at work. Therefore, it may be assumed that feminine cultures observe their counterparts in greater detail and, therefore, are able to observe and understand their emotions better than individuals from rather masculine cultures. Long-term oriented cultures are focused on building relationships (Hofstede, 2001). Such activity requires thorough observation of the partner. The recognition of the counterparts' feelings is an important aspect of observing and learning to understand the behavior of others. Therefore, it can be asserted that cultures scoring high in long-term orientation are better able to observe the emotions of other than cultures scoring low in long-term orientation. The appraisal of others' emotion is a complex topic. Currently, the research has mainly focused on the recognition of the facial expression of emotions. The culture of the expresser seems to matter not only in the way emotions are expressed (accents) but also in recognizing others' emotions. Individuals from certain cultures would thus be more sensitive to others' emotions within their cultures and better at reading others' minds. Therefore, we pose the following hypotheses:

Hypothesis 2a (H2a). Collectivism is positively related others' emotional appraisal.

Hypothesis 2b (H2b). Masculinity is negatively related others' emotional appraisal.

Hypothesis 2c (H2c). Power distance is negatively related others' emotional appraisal.

Hypothesis 2d (H2d). Uncertainty avoidance is negatively related others' emotional appraisal.

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Hypothesis 2e (H2e). Long-term orientation is positively related others' emotional appraisal.

2.3. Culture and the regulation of emotion

The regulation of emotions differs in various cultures. For example, conflict inducing behavior is minimized in collectivistic cultures whereas individualistic cultures are more tolerant of individual deviance (Triandis and Gelfand, 1998). Matsumoto (1989) shows that individualism is closely related to the facial expression of happiness and sadness. That is, in collectivistic cultures, emotions, such as sadness, are often not displayed as openly as in individualistic cultures (Matsumoto, 1996). All in all, individualistic cultures do not suppress their emotions as much as collectivistic cultures do (Matsumoto et al., 2008). Uncertainty avoidance seems to have a negative influence on the regulation of emotion. Hofstede (2001) notes that in high uncertainty avoidance cultures, it is socially acceptable to express emotions since anxiety is released by showing of emotions. Cultures scoring high on power distance value emotions less and require a control of emotions at the individual level (Matsumoto et al., 2008). Therefore, power distance can be related to a better control of emotions and thereby suppression of emotions (Matsumoto et al., 2008). As long-term orientation is connected to the practice of saving face (Hofstede, 2001), it is rather related to suppressing emotions (Matsumoto et al., 2008). Considering that the individuals aim for a long-term relationship, it might be seen as desirable to control emotions in order not to hurt the potential long-term relationships. In feminine cultures, men suppress joy and sadness, whereas in masculine cultures, they are displayed openly. All in all, feminine cultures have higher norms for emotional stability than masculine cultures have (Hofstede, 2001). Based on this argumentation, we propose the following hypotheses:

Hypothesis 3a (H3a). Collectivism is positively related to regulation of emotions.

Hypothesis 3b (H3b). Masculinity is negatively related to regulation of emotions.

Hypothesis 3c (H3c). Power distance is positively related to regulation of emotions.

Hypothesis 3d (H3d). Uncertainty avoidance is negatively related to regulation of emotions.

Hypothesis 3e (H3e). Long-term orientation is positively related to regulation of emotions.

2.4. Culture and the use of emotions

The way managers display their emotions may communicate different messages to their employees in different cultural settings. For example, U.S. American managers might exaggerate their expression of emotion in order to signal pleasure, optimism, frustration, or displeasure to their employees. Japanese leaders are rather modest in their expression of emotions. In summary, when comparing American and Japanese leaders, it seems like the appropriate reactions to certain events, expectations, and performance appraisals are communicated in a rather non-emotional way in Japan, whereas emotions are used to emphasize the message in the U.S. (Bono and Barron, 2008). From this, we can conclude that collectivism seems to be negatively related to the use of emotion. The same could be applied to uncertainty avoidance (according to Hofstede (2001), Japan scores significantly higher on uncertainty avoidance than does the U.S.). In masculine cultures, which are characterized by having managers that are assertive and sometimes even aggressive, emotions are not controlled as much as in feminine cultures (Hofstede, 2001). This hints at using emotions, and therefore, it can be assumed that masculinity might be positively related to the use of emotions. Long-term orientation, on the other hand, is more concerned with harmony in a relationship (Hofstede, 2001) and therefore emotions might be less used. The use of emotions in high power distance countries depends on the composition of the interaction. Individuals higher in hierarchy might use negative emotions when interacting with individuals lower in hierarchy. Joy is an emotion which might be revealed when interacting with individuals higher in hierarchy. Nevertheless, power distance is related to controlling emotions (Matsumoto et al., 2008) and, therefore, emotions might not be used as much in high power distance cultures than in low power distance cultures. The literature presented above demonstrates a relation between the use of emotions and culture. Therefore, we propose the following five hypotheses:

Hypothesis 4a (H4a). Collectivism is negatively related to the use of emotion.

Hypothesis 4b (H4b). Masculinity is positively related to the use of emotion.

Hypothesis 4c (H4c). Power distance is negatively related to the use of emotion.

Hypothesis 4d (H4d). Uncertainty avoidance is positively related to the use of emotion.

Hypothesis 4e (H4e). Long-term orientation is positively related to the use of emotion.

Fig. 2 depicts our conceptual model.

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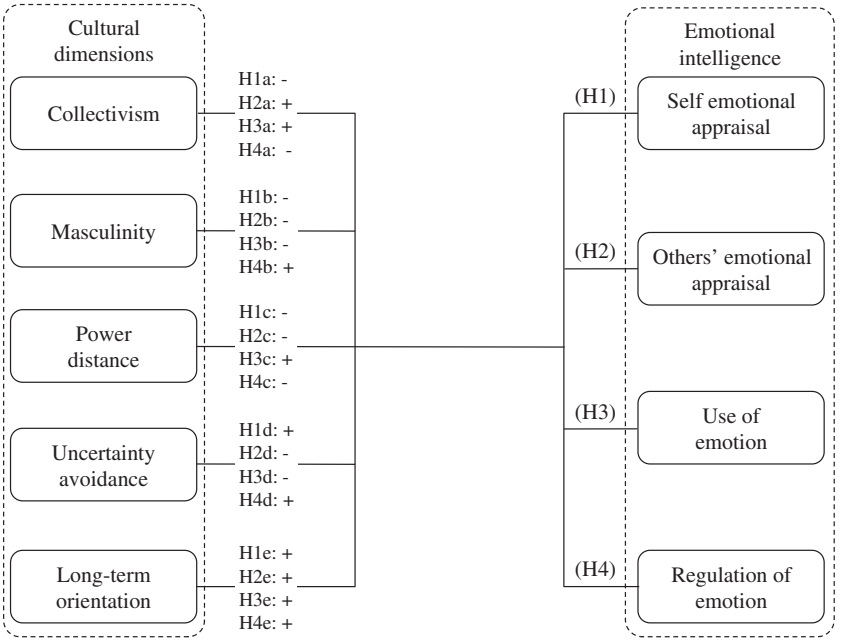

Fig. 2. Conceptual model.

3. Method

To answer our research questions, we conducted a survey in nine countries. When applying a multi-country approach, a number of methodological aspects are encountered. Following the recommendations in the literature (e.g., van de Vijver and Leung, 1997), our procedure included efforts to ensure the comparability of samples, survey question translation, and data collection.

3.1. Sample and data collection procedure

Our sampling strategy included a careful selection of the sample population as well as of the national cultural context. To ensure that the number of countries and the countries selected was appropriate to explore the research questions, we followed the suggestions in the literature (Franke and Richey, 2010) as well as prior research on cultural clusters (countries with similar cultural beliefs, norms, and values) to select countries for sampling (Ronen and Shenkar, 1985). We included China ($n = 261$), Colombia ($n = 202$), Germany ($n = 255$), India ($n = 276$), Italy ($n = 198$), Russia ($n = 224$), Spain ($n = 185$), Turkey ($n = 196$), and the U.S. ($n = 270$) in the current study. The nine countries represent seven of the nine cultural clusters identified by Ronen and Shenkar (1985): Anglo (U.S.), Far Eastern (China), Germanic (Germany), Independent (India), Latin American (Colombia), Latin European (Italy, Spain), and Near East (Turkey). Countries that cover the Arab and the Nordic cluster are not included in this study which represents a shortcoming that is further discussed in the limitation section.

In an effort to ensure that the effect of cultural dimensions on EI is based on cultural norms and values rather than to other types of factors, we used a sample of university business students. While the use of student samples is debated in cross-country research (e.g., Bello et al., 2009), in this research context the use of student samples can be considered appropriate as they help to isolate the effects of cultural dimensions on EI: Student samples are more homogenous than non-student samples and allow to establish cross-country homogeneity of samples (van de Vijver and Leung, 1997). In this way, the number of influences other than culture is reduced by holding different demographic variables such as socio-economic status, education, work experience, status, and age constant. A total of 2067 business students participated in this study. The respondents were from at least one university (one to three) in each country and only the responses from individuals who were born, raised, educated, and are permanently residing in their respective country were used in this study. The average age of respondents was 22 years. More than half of the respondents (51%) were females. Comparisons between countries revealed no difference in age. Gender is distributed about evenly in the majority of countries.

To ensure the equivalence and consistency across samples in terms of survey formats and the data collection procedure (Leung, 2008), in all nine countries, surveys were administered in a classroom setting. Participation in the study was voluntary. All questionnaires were completed anonymously to ensure confidentiality. The data was collected simultaneously for the majority of countries. The questionnaire was developed in English and administrated in its original language in two countries (India and the U.S.). Following the recommendations in the literature (Harzing, 2005), the English questionnaire was translated into six languages (Chinese, German, Italian, Russian, Spanish, Turkish) and back-translated into English to ensure linguistic as well as

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conceptual equivalence (Brislin, 1980; Hui and Triandis, 1985) in a multi-stage procedure. Two respective country natives conducted the translation/back-translation procedure for the different languages. The translations were conducted using one individual for the translation and another individual for the translation back into English. Differences in the translations of the two translators were resolved through subsequent discussion. Two countries (Colombia and Spain) used the Spanish versions but were adjusted for Latin American (Colombia) and European (Spanish) language differences. In countries where the questionnaire was administered in English (India), students did not report any difficulty in understanding the statements as English was the official language and the language of instruction at the university.

3.2. Measures

3.2.1. Emotional intelligence

The four trait-based dimensions suggested by Wong and Law (2002) are used to measure EI. Self emotional appraisal (SEA) was assessed using four items. Sample items are "I have a good sense of why I have certain feelings most of the time.", "I have a good understanding of my own emotions.", and "I really understand what I feel." The coefficient alpha reliability was .74 for the pooled sample. Others' emotional appraisal (OEA) was measured with four items (e.g., "I always know my friends' emotions from their behavior.", "I am a good observer of others' emotions.", and "I have a good understanding of the emotions of people around me."). The coefficient alpha reliability was .76 for the pooled sample. Use of emotion (UOE) was assessed with four items. Sample items are "I always set goals for myself and then try my best to achieve them.", "I am a self-motivated person.", and "I would always encourage myself to try my best." The coefficient alpha reliability was .69 for the pooled sample. Regulation of emotion (ROE) was measured with four items. Sample items are "I am able to control my temper and handle difficulties rationally.", "I am quite capable of controlling my emotions.", and "I have good control of my own emotions." The coefficient alpha reliability was .81 for the pooled sample. The items contributing to the four dimensions on a scale anchored at 1, "strongly disagree," and 5 "strongly agree."

3.2.2. Cultural dimensions

Following the recommendation in the literature, we used primary data to measure the cultural dimensions (Taras et al., 2009, 2010) and included all five cultural dimensions (Kirkman et al., 2006; Tsui et al., 2007) proposed by Hofstede (2001). The cultural dimensions are operationalized at the individual level using the 23 items from Yoo et al. (2011). Individualism/collectivism was assessed with six items (e.g., "Group loyalty should be encouraged even if individual goals suffer.", "Group welfare is more important than individual rewards.", and "Group success is more important than individual success."). The coefficient alpha reliability was .61 for the pooled sample. It should be noted that, given the wording of the different items, this scale has to be interpreted as collectivism. Masculinity was measured using four items (e.g., "Men usually solve problems with logical analysis; women usually solve problems with intuition.", "Solving difficult problems usually requires an active, forcible approach, which is typical of men." and "It is more important for men to have a professional career than it is for women."). The coefficient alpha reliability was .63 for the pooled sample. Power distance was assessed using five items. Sample items are "People in higher positions should not ask the opinions of people in lower positions too frequently.", "People in higher positions should make most decisions without consulting people in lower positions.", and "People in lower positions should not disagree with decisions by people in higher positions." The coefficient alpha reliability was .61 for the pooled sample. Uncertainty avoidance was measured using five items (e.g., "Standardized work procedures are helpful.", "Instructions for operations are important.", and "It is important to have instructions spelled out in detail so that I always know what I'm expected to do."). The coefficient alpha reliability was .68 for the pooled sample. Finally, the fifth cultural dimension, long-term orientation, was measured using six items. Sample items include "Going on resolutely in spite of opposition (Persistence)", "Personal steadiness and stability", and "Working hard for success in the future". The coefficient alpha reliability was .69 for the pooled sample. The response scales ranged from 1, "strongly disagree," to 5, "strongly agree" for all items that measured the first four dimensions. Following the recommendations by Yoo et al. (2011), long-term orientation was measured with a scale that ranged from 1, "very unimportant," to 5, "very important."

3.2.3. Controls

We controlled for two demographic variables that may be related to EI. Previous studies (e.g., Mayer et al., 1999; Tsaousis and Kazi, 2013) found that age has an effect on EI. Therefore, age was included as a control variable and was measured in years. While prior research (e.g., Day and Carroll, 2004; Mandell and Pherwani, 2003; Van Rooy et al., 2005) suggests that gender has an effect on EI (women have higher scores of EI than men), other studies have found no significant effect of gender on EI (e.g., Nikolaou and Tsaousis, 2002; Whitman et al., 2009). Thus, we included gender as a control variable. Gender was measured as a dichotomous variable coded as 1 for female and 0 for male. In addition, the questionnaire included questions about citizenship, citizenship at birth, study program, and level of degree program (bachelor/master) to control for sample homogeneity.

4. Results

4.1. Measurement model, measurement equivalence, and descriptive statistics

In an effort to identify any country-specific components in the measurement model, we conducted CFA for each country using AMOS 20 and the maximum likelihood estimation procedure (Arbuckle, 2010). According to the literature (e.g., Cheung and

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Rensvold, 2002), the chi-square (χ^2) statistic is not an adequate test of model fit given large sample sizes as well as small sample sizes. Consequently, the results of the χ^2 test were not considered critical for evaluating the model fit such that we complement the χ^2 statistic with other, more appropriate measures of fit. We followed the recommendations in the literature (e.g., Browne and Cudeck, 1993) and used several fit indexes to provide a complete assessment of model fit. We used the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). Models resulting in CFI values of .9 or higher are considered acceptable (Bagozzi and Yi, 1988). For the RMSEA index, values below .08 are considered indicative of good fit (Browne and Cudeck, 1993). In the various countries, different factor loadings were statistically insignificant and showed factor loadings and squared multiple correlations below the .7 and .4 thresholds, respectively. Following the procedure suggested by Byrne (2010), 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). We deleted several items in the various countries for the cultural dimensions as well as for the EI dimensions. The deletion of items was based on the analysis of respective item intercorrelations, the analysis of item-total correlations, and the CFA results. All independent and dependent variables were modeled as reflective measures so that items could be removed without affecting their theoretical domain.

Following the recommendation in the literature (Chang et al., 2010; Reio, 2010), we empirically tested whether common method bias affects our results. We used three ex post approaches to assess common method bias (Podsakoff et al., 2003). First, to identify multicollinearity, we examined the correlation coefficients for each country as well as for the pooled sample. We found no highly correlated variables, suggesting that the likelihood of common method bias was low. Second, we used Harman's one factor test and found a very poor fit for the single-factor models for each country sample and the pooled sample, suggesting that the influence of common method bias was minimal. Finally, we used a common method factor and performed confirmatory factor analysis (CFA) for each country and the pooled sample. All item loadings on the common method factor were insignificant for the nine country samples as well as the pooled sample. While these procedures have their limitations, the results still suggest that common method variance is not a significant issue in this study.

For further analysis, we used a factor structure that was identical for all eight countries and only used those items that showed high factor loadings and high squared multiple correlations for all nine countries as well as for the pooled sample (Byrne, 2010). The results of the CFA for the cultural dimensions are presented in Table 1 and the CFA results for the EI dimensions are presented in Table 2. As shown in the tables for the revised measurement model, the values of the CFI were above the .9 threshold and the RMSEAs were below the .8 threshold for the majority of the nine countries and the pooled sample. As only RMSEA values above .1 indicate a poor fit and should be rejected (Browne and Cudeck, 1993), the RMSEA values in the present study that were above .08 have still an acceptable fit. Overall, the CFA results of the revised measurement model indicate an acceptable fit.

Following the recommendations in the literature, prior to exploring our research questions, we tested the assumptions of cross-cultural measurement invariance using multi-group confirmatory factor analysis (MGCFA). Measurement invariance is a necessary prerequisite for meaningful cross-cultural comparisons (Nimon and Reio, 2011; Schmitt and Kuljanin, 2008; Tsui et al., 2007). Furthermore, prior research suggests that measurement invariance is an important factor in the examination of EI across cultures (Ekermans, 2009). In examining measurement invariance, we constrain factor loadings and variances of the variables to be equal across the nine countries and tested configural invariance, metric invariance, and scalar invariance (Steenkamp and Baumgartner, 1998). To compare relationships across groups, the measurement of constructs needs to show at least partial metric invariance (e.g., Steenkamp and Baumgartner, 1998). Partial measurement invariance refers to at least two observed indicators of a latent construct showing invariance. Following best practice recommendations derived from the literature that utilized cultural dimension scales at the individual level (e.g., Schumann et al., 2010, 2012), the MGCFA for the cultural dimensions as well as for

Table 1
CFA and MGCFA results for the cultural dimensions.

	n	χ^2	*df*	*p*	CFI	RMSEA	ΔCFI
CFA results							
China	261	145.37	80	.000	.913	.056	–
Colombia	202	102.00	80	.049	.922	.037	–
Germany	255	96.14	80	.105	.966	.028	–
India	276	122.60	80	.002	.901	.044	–
Italy	198	110.29	80	.014	.910	.044	–
Russia	224	114.12	80	.007	.913	.040	–
Spain	185	111.71	80	.011	.928	.046	–
Turkey	196	105.76	80	.029	.954	.041	–
U.S.A.	270	126.30	80	.001	.921	.046	–
Pooled sample	2067	306.16	80	.000	.945	.037	–
MGCFA results							
Configural invariance	2067	1061.00	720	.000	.913	.015	–
Full metric invariance	2067	1260.10	800	.000	.890	.017	.023
Partial metric invariance	2067	1154.20	752	.000	.904	.016	.009
Full scalar invariance	2067	3170.41	920	.000	.462	.034	.442

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.

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Table 2
CFA and MGCFA results for the emotional intelligence dimensions.

	n	χ^2	*df*	*p*	CFI	RMSEA	ΔCFI
CFA results							
China	261	134.00	48	.000	.922	.083	–
Colombia	202	70.94	48	.017	.968	.031	–
Germany	255	121.80	48	.000	.946	.065	–
India	276	144.71	48	.000	.936	.051	–
Italy	198	143.29	48	.000	.938	.072	–
Russia	224	193.99	48	.000	.914	.088	–
Spain	185	106.12	48	.000	.933	.066	–
Turkey	196	134.67	48	.000	.900	.096	–
U.S.A.	270	101.14	48	.000	.953	.062	–
Pooled sample	2067	270.33	48	.000	.971	.047	–
MGCFA results							
Configural invariance	2067	989.24	462	.000	.935	.023	–
Full metric invariance	2067	1120.87	518	.000	.926	.023	.009
Full scalar invariance	2067	1909.73	614	.000	.841	.031	.085

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.

the EI dimensions were examined separately. The results of the MGCFA for the cultural dimensions are presented above in Table 1 and the MGCFA results for the EI dimensions are also presented above in Table 2.

For the EI dimensions, the results of the MGCFA for the configural model show a satisfactory fit ($\chi^2 = 989.24$; $df = 462$; CFI = .935; RMSEA = .023). The results of the metric model also show a satisfactory fit ($\chi^2 = 1120.87$; $df = 518$; CFI = .926; RMSEA = .023). The difference between the configural model and the metric model was not significant (ΔCFI = .009) and, therefore, the factor structure can be considered invariant across the nine countries (Byrne, 2010; Cheung and Rensvold, 2002). The results show an inadequate fit of the scalar model ($\chi^2 = 1909.73$; $df = 614$; CFI = .841; RMSEA = .031). The comparison between the metric model and the scalar model (ΔCFI = .085) shows that the data did not fit the requirement for scalar invariance and, consequently, the data did not meet the requirement for meaningful comparison of the means across countries (Steenkamp and Baumgartner, 1998). For the cultural dimensions, the results of the MGCFA for the configural model show a satisfactory fit ($\chi^2 = 1061.00$; $df = 720$; CFI = .913; RMSEA = .015). The results of the metric model show no acceptable fit ($\chi^2 = 1260.10$; $df = 800$; CFI = .890; RMSEA = .017). The difference between the configural model and the metric model was significant (ΔCFI = .023), indicating that the factor structure cannot be considered invariant across the nine countries. The results of the partial metric invariance model indicate that the constructs were measured adequately across countries ($\chi^2 = 1154.20$; $df = 752$; CFI = .904; RMSEA = .016; ΔCFI = .009). The results show an inadequate fit of the scalar model ($\chi^2 = 3170.41$; $df = 920$; CFI = .462; RMSEA = .034). The comparison between the metric model and the scalar model (ΔCFI = .442) shows that the data did not fit the requirement for scalar invariance and, consequently, the data did not meet the requirement for meaningful comparison of the means across countries. Overall, the MGCFA results support the conclusion that the measurement of the cultural dimensions and the EI dimensions can be interpreted in the same way across the nine countries at the metric level, allowing the comparison of the results of regression analyses across countries. Based on the results of the CFA and the MGCFA, Table 3 presents means and standard deviations for all variables (tables of correlation coefficients by country are available from

Table 3
Means and standard deviations (individual country samples).

	China		Colombia		Germany		India		Italy		Russia		Spain		Turkey		U.S.A.	
	M	s.d.	M	s.d.	M	s.d.	M	s.d.	M	s.d.	M	s.d.	M	s.d.	M	s.d.	M	s.d.
Collectivism	3.01	.80	3.35	.73	3.29	.68	3.47	.79	3.29	.77	2.70	.79	3.42	.70	3.45	1.06	3.35	.66
Masculinity	3.47	.82	2.19	.77	3.08	.86	2.50	.98	2.42	.84	3.13	.96	2.06	.79	2.93	1.07	2.53	.65
Power distance	2.57	.78	2.00	.85	2.42	.74	2.16	.80	1.86	.73	2.53	.89	2.00	.78	2.39	.92	2.06	.65
Uncertainty avoidance	3.81	.74	3.94	.66	3.78	.62	3.86	.76	3.57	.65	3.73	.68	3.72	.63	3.91	.98	3.99	.69
Long-term orientation	4.23	.81	4.09	.80	3.84	.67	3.96	.77	3.99	.66	3.93	.69	4.17	.60	4.16	.75	4.06	.77
Self emotional appraisal	3.70	.67	3.71	.67	3.53	.74	3.73	.81	3.39	.90	3.78	.85	3.74	.63	3.65	.86	3.94	.63
Others' emotional appraisal	3.62	.70	3.89	.63	3.76	.62	3.91	.79	3.59	.84	3.75	.70	3.87	.63	3.79	.79	4.11	.57
Use of emotion	3.61	.66	4.03	.65	3.82	.68	3.87	.72	3.70	.83	3.83	.71	3.98	.59	3.71	.86	4.16	.64
Regulation of emotion	3.40	.75	3.50	.82	3.48	.85	3.51	.88	3.41	.97	3.57	.91	3.68	.77	3.44	.86	3.88	.77
Age	21.49	1.43	21.29	20.68	23.02	6.71	21.45	20.32	21.73	2.02	21.11	1.78	20.41	1.49	21.98	2.48	20.80	2.78
Gender (female)	.48		.52		.45		.61		.47		.48		.64		.46		.43	
n	261		202		255		276		198		224		185		196		270	

Note: Gender is given in percent. Correlations for all individual countries are available from the authors upon request.

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the corresponding author upon request). Table 4 presents means, standard deviations, and correlation coefficients for the pooled sample.

The descriptive statistics for the pooled sample show that Cronbach alpha values are below the recommended threshold of .7 (Nunnally, 1978) for six of the nine latent variables. According to the literature (Nunnally and Bernstein, 1994), Cronbach alpha values below .7 and over .6 for new instruments are acceptable. As the cultural values scale by Yoo et al. (2011) is a relatively new scale, there were no validated translations available for the majority of countries and there are not yet many results detailing the reliability of this scale. Also for the EI scale, there were no validated translations available for the majority of countries. The test of Cronbach's alpha is sensitive to both variance and number of items. The business students were a matched sample in terms of age and education and, consequently, the samples analyzed were homogeneous. Moreover, establishing the baseline model for the MGCFA reduced the total number of items being analyzed for each cultural dimension to three. Thus, the low Cronbach's alpha could likely be a function of the low number of items (Cortina, 1993). In summary, the low Cronbach's alpha may be a result of range restriction found in a homogenous sample along with the low number of items that is necessary to establish measurement invariance across countries.

Table 5 presents the means of the five cultural dimensions of the current study and provides the information for the related cultural dimensions by Hofstede (2001). Following best practice in the literature (e.g., Venaik and Brewer, 2010), we used correlation analysis to examine the correlations between the cultural dimensions measured at the individual level and the cultural dimensions measured at the societal level. The results show that for the collectivism dimension the correlation is low ($r = .25$). For the masculinity dimension, the results show that there is no correlation ($r = .01$). The results for power distance suggest that the Hofstede scores moderately correlate with our means ($r = .57$). For uncertainty avoidance, our result suggest that our means are negatively correlated with the Hofstede scores ($r = -.31$). The result for the long-term orientation dimension show that the Hofstede scores moderately correlate with the means at the individual level ($r = .66$). The differences in Hofstede's (2001) scores and our findings at the individual are not surprising, given the differences in the samples, the measurement, and the cultural change since Hofstede (1980, 2001) developed the country scores (Taras et al., 2010, 2012).

4.2. Test of hypotheses

We used ordinary least squares regression analyses to test the effect of the cultural dimensions on EI. Hypotheses 1a to 1e examine the effect of the respective cultural dimension on self emotional appraisal. Table 6 presents the results for self emotional appraisal. The results suggest that of all the control variables, gender had a negative effect for the Indian sample and for the pooled sample, suggesting that females score lower than males for self emotional appraisal. Hypothesis 1a predicts that collectivism is negatively related to self emotional appraisal. In contrast to our hypothesis, collectivism had a positive effect on self emotional appraisal for India, the U.S., and the pooled sample. Thus, Hypothesis 1a is not supported. Hypothesis 1b posits that masculinity is negatively related to one's own emotional appraisal. Consistent with Hypothesis 1b, masculinity had a negative effect on self emotional appraisal for the Indian sample. In contradiction to the hypothesis, we found a positive masculinity–self emotional appraisal relationship for the Chinese sample. We found no significant effect for the pooled sample. Thus, the overall pattern of findings provides mixed support for Hypothesis 1b. Hypothesis 1c predicts that power distance is negatively related to self emotional appraisal. Power distance had a negative effect for the Chinese sample, a positive effect for the Russian sample, and no significant effect for the pooled sample. Therefore, the results offer no clear support for Hypothesis 1c. Hypothesis 1d posits that uncertainty avoidance is positively related to self emotional appraisal. Uncertainty avoidance had a positive effect on self emotional appraisal for five of the nine country samples (China, Germany, India, Italy, and Turkey) as well as for the pooled sample. In sum, we conclude that there is sufficient support for Hypothesis 1d. Hypothesis 1e predicts that long-term orientation is positively related to self emotional appraisal. Long-term orientation had a positive effect on self emotional appraisal for six of the nine countries (China, Germany, India, Russia, Spain, and Turkey) as well as for the pooled sample. Overall, we find strong support for Hypothesis 1e.

Table 4
Descriptive statistics (pooled sample).

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1 Collectivism	3.25	.81	(.61)									
2 Masculinity	2.73	.97	.01	(.63)								
3 Power distance	2.23	.83	.02	.32	(.61)							
4 Uncertainty avoidance	3.82	.73	.27	.03	−.06	(.68)						
5 Long-term orientation	4.04	.74	.05	.02	−.02	.21	(.69)					
6 Self emotional appraisal	3.69	.77	.07	.02	−.01	.20	.18	(.74)				
7 Others' emotional appraisal	3.82	.72	.15	−.06	−.06	.18	.18	.46	(.76)			
8 Use of emotion	3.86	.72	.12	−.07	−.07	.19	.29	.35	.34	(.69)		
9 Regulation of emotion	3.54	.86	.11	.02	.01	.12	.13	.45	.24	.31	(.81)	
10 Age	21.54	3.32	.02	.11	.05	.01	−.05	−.03	−.03	−.01	−.01	
11 Gender (female)	.51		−.09	−.36	−.17	.05	.01	−.02	.11	.06	−.13	−.09

Note: $n = 2067$. All correlations above I.05I are significant at the .05 level.

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Table 5
Individual cultural dimension means and Hofstede index scores.

Cultural dimension	China	Colombia	Germany	India	Italy	Russia	Spain	Turkey	U.S.A.	Correlation
Collectivism	3.01	3.35	3.29	3.47	3.29	2.70	3.42	3.45	3.35	
Individualism (H)	20	13	67	48	76	39	51	37	91	0.25
Masculinity	3.47	2.19	3.08	2.50	2.42	3.13	2.06	2.93	2.53	
Masculinity (H)	66	64	66	56	70	36	42	45	62	0.01
Power distance	2.57	2.00	2.42	2.16	1.86	2.53	2.00	2.39	2.06	
Power distance (H)	119	67	35	77	50	93	57	66	40	0.57
Uncertainty avoidance	3.81	3.94	3.78	3.86	3.57	3.73	3.72	3.91	3.99	
Uncertainty avoidance (H)	30	80	65	40	75	95	86	85	46	−0.31
Long-term orientation	4.23	4.09	3.84	3.96	3.99	3.93	4.17	4.16	4.06	
Long-term orientation (H)	118	–	31	61	34	–	48	–	29	0.66

Notes: (H) indicates Hofstede's (2001) cultural dimension index scores. Correlation coefficients are presented for the correlation between the primary data cultural dimension means and the secondary data cultural dimension indexes.

Hypotheses 2a to 2e assess the influence of the respective cultural dimension on others' emotional appraisal. Table 7 presents the results for others' emotional appraisal. The results suggest that gender had a positive effect for three of the nine countries (Germany, Russia, and Spain) as well as for the pooled sample, suggesting that females score higher than males for others' emotional appraisal. Hypothesis 2a posits that collectivism is positively related to others' emotional appraisal. While collectivism had a positive effect on the emotional appraisal of others for three of the nine countries (Germany, Spain, and the U.S.), it had no significant effect for the pooled sample. This provides modest support for Hypothesis 2a. Hypothesis 2b predicts that masculinity is negatively related to others' emotional appraisal. In contrast to our hypothesis, masculinity had a significant positive effect on the emotional appraisal of others for the Chinese sample and, additionally, we found no significant effect for the pooled sample. Thus, Hypothesis 2b is not supported. Hypothesis 2c predicts that power distance is negatively related to others' emotional appraisal. Our results show that power distance had neither a significant effect for the individual countries nor for the pooled sample, providing no support for Hypothesis 2c. Hypothesis 2d states that uncertainty avoidance is negatively related to others' emotional appraisal. Uncertainty avoidance had a positive effect on others' emotional appraisal for two of the nine country samples (India and Turkey) as well as for the pooled sample. Overall, Hypothesis 2d could not be supported. Hypothesis 2e predicts that long-term orientation is positively related to others' emotional appraisal. Long-term orientation had a positive effect on others' emotional appraisal for six of the nine countries (China, Germany, Russia, Spain, Turkey, and the U.S.) as well as for the pooled sample. Therefore, Hypothesis 2e is supported.

Hypothesis 3a to 3e examines the effect of the respective cultural dimensions on the regulation of emotion. As shown in Table 8, the results suggest that gender had a negative effect for four of the nine countries (Colombia, Germany, India, and the U.S.) as well as for the pooled sample, suggesting that females score lower than males for the regulation of emotion. Hypothesis 3a predicts that collectivism is positively related to regulation of emotions. Collectivism had a positive effect on the regulation of emotion for two of the nine countries (Turkey and the U.S.) as well as for the pooled sample. In sum, our results provide partial support for Hypothesis 3a. Hypothesis 3b states that masculinity is negatively related to regulation of emotions. Masculinity had a

Table 6
Regression results for self emotional appraisal.

Variable	China	Colombia	Germany	India	Italy	Russia	Spain	Turkey	U.S.A.	Pooled
Controls										
Age	.01	.02	−.01	.04†	.03	.02	.00	.00	−.01	.00
Gender (female)	.12	−.07	.03	−.26*	−.05	−.04	−.03	.01	−.15C	−.23***
Cultural dimensions										
Collectivism (H1a −)	−.06	−.07	−.08	.13*	−.01	.03	.12†	.03	.13*	.07*
Masculinity (H1b −)	.17**	.00	−.05	−.13*	.11	.03	−.02	.02	−.09	.00
Power distance (H1c −)	−.12*	.02	−.03	.06	−.04	.14*	.03	−.13†	−.02	−.02
Uncertainty avoidance (H1d +)	.17**	−.05	.15*	.15*	.28***	.10	.07	.21**	.06	.08**
(H1e +)	.13*	.11†	.20**	.13*	.12	.23*	.18*	.27**	.03	.12***
Constant	2.00**	3.24***	2.88***	1.73**	1.14	1.99***	2.22**	1.94**	3.74***	3.00***
Country dummies	–	–	–	–	–	–	–	–	–	Included
F	7.22***	0.84	2.47*	4.94***	1.97†	4.07**	1.75	5.75***	2.29*	10.85***
R^2	.17	.03	.07	.12	.07	.09	.07	.18	.06	.08
Adjusted R^2	.15	.00	.04	.09	.03	.06	.03	.15	.03	.07
n	261	202	255	276	198	224	185	196	270	2067

Note: Unstandardized regression coefficients are presented. The U.S. sample is the baseline in the pooled sample regression model. Hypotheses and their respective directions are presented in parentheses.

† $p < .10$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

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Table 7
Regression results for others' emotional appraisal.

Variable	China	Colombia	Germany	India	Italy	Russia	Spain	Turkey	U.S.A.	Pooled
Controls										
Age	−.02	.00	.00	.04†	.02	.01	.01	−.01	−.02†	.00
Gender (female)	.15†	.14	.23**	.10	.19	.18*	.30***	.07	.10	.16***
Cultural dimensions										
Collectivism (H2a +)	.06	.00	.16**	.08	.11	.02	.19***	.04	.18**	.10
(H2b −)	.22***	−.02	−.04	−.09	.02	.01	−.02	.00	−.07	.01
Power distance (H2c −)	−.06	.03	−.06	.02	.01	.05	.00	−.10†	−.08	−.03
Uncertainty avoidance (H2d −)	.11†	−.03	.11†	.18***	.11	.06	.00	.17**	−.08	.09***
Long term orientation (H2e +)	.14*	.09	.15*	.09	−.01	.22***	.25***	.34***	.11*	.15***
Constant	2.17**	3.46***	2.40***	1.83**	2.23**	2.43***	1.72*	2.09**	4.13***	2.77***
Country dummies	–	–	–	–	–	–	–	–	–	Included
F	7.52***	0.78	5.08***	3.21**	1.08	3.00*	5.06***	7.96***	3.40**	18.14***
R^2	.17	.03	.13	.08	.04	.07	.16	.23	.08	.12
Adjusted R^2	.15	.00	.10	.05	.00	.04	.13	.20	.06	.12
n	261	202	255	276	198	224	185	196	270	2067

Note: Unstandardized regression coefficients are presented. The U.S. sample is the baseline in the pooled sample regression model.
† $p < .10$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

significant negative effect for the Indian sample and no significant effect for the pooled sample, providing limited support for Hypothesis 3b. Hypothesis 3c posits that power distance is positively related to regulation of emotions. Power distance had a significant positive effect for two of the nine countries (Russia and Spain), a negative effect for the U.S. sample, and no significant effect for the pooled sample. Thus, the overall pattern of findings provides mixed support for Hypothesis 3c. Hypothesis 3d predicts that uncertainty avoidance is negatively related to regulation of emotions. Uncertainty avoidance had a positive effect on the regulation of emotion for the Indian sample as well as for the pooled sample, providing modest support for Hypothesis 3d. Hypothesis 3e states that long-term orientation is positively related to regulation of emotions. Long-term orientation had a positive effect on the regulation of emotion for three of the nine countries (China, Russia, and Turkey) as well as for the pooled sample. Overall, these results provide support for Hypothesis 3e.

Hypotheses 4a to 4e examine the influence of the respective cultural dimension on the use of emotions. As presented in Table 9, the findings suggest that gender had a positive effect only for the U.S. and for the pooled sample, suggesting that females score higher than males for the use of emotions. Hypothesis 4a predicts that collectivism is negatively related to the use of emotions. In contradiction to our hypothesis, collectivism had a positive effect on use of emotions for two of the nine countries (China and Turkey) as well as for the pooled sample. Therefore, Hypothesis 4a is not supported. Hypothesis 4b states that masculinity is positively related to the use of emotions. Masculinity had a significant positive effect for the Colombian sample and

Table 8
Regression results for regulation of emotion.

Variable	China	Colombia	Germany	India	Italy	Russia	Spain	Turkey	U.S.A.	Pooled
Controls										
Age	.04	.02	.00	.01	−.01	.01	.00	.00	−.01	.00
Gender (female)	−.11	−.36***	−.36**	−.26*	−.25†	−.25†	−.03	−.12	−.25*	−.23***
Cultural dimensions										
Collectivism (H3a +)	−.03	−.05	−.04	.12†	.08	.10	.11	.16*	.16*	.07*
Masculinity (H3b −)	.09	−.02	.07	−.12*	.05	.01	−.12	.04	.03	.00
Power distance (H3c +)	−.10	.03	−.04	.06	−.03	.22**	.20*	−.14*	−.01	−.02
Uncertainty avoidance (H3d −)	−.02	−.16†	.06	.17*	.15	.08	.14	.03	.09	.08**
Long term orientation (H3e +)	.16*	.11	.09	.13†	.07	.23*	.14	.21*	.06	.12***
Constant	2.09*	3.71***	3.06***	2.03**	2.57*	1.52**	2.19*	2.11**	3.00***	3.00***
Country dummies	–	–	–	–	–	–	–	–	–	Included
F	2.66*	2.02*	2.52*	3.52**	1.03	5.47***	2.16*	3.19**	3.21**	10.85***
R^2	.07	.07	.07	.09	.04	.11	.08	.11	.08	.08
Adjusted R^2	.04	.03	.04	.06	.00	.09	.04	.07	.05	.07
n	261	202	255	276	198	224	185	196	270	2067

Note: Unstandardized regression coefficients are presented. The U.S. sample is the baseline in the pooled sample regression model.
† $p < .10$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

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no significant effect for the pooled sample, providing very limited support for Hypothesis 4b. Hypothesis 4c predicts that power distance is negatively associated with the use of emotions. Power distance had neither a significant effect for the individual countries nor for the pooled sample, providing no support for Hypothesis 4c. Hypothesis 4d posits that uncertainty avoidance is positively related to the use of emotions. Uncertainty avoidance had a positive effect on the use of emotion for the Turkish sample as well as for the pooled sample, providing modest support for Hypothesis 4d. Hypothesis 4e proposes that long-term orientation is positively related to the use of emotions. Long-term orientation had a positive effect on the use of emotion for eight of the nine countries (all countries except Colombia) as well as for the pooled sample. In sum, these results provide strong support for Hypothesis 4e.

5. Discussion

Meta-analytic studies have identified EI as a main determinant of a wide range of important human resource management outcomes, including general performance, job performance, and team performance (Bell, 2007; Joseph and Newman, 2010; O'Boyle et al., 2011; Van Rooy and Viswesvaran, 2004) as well as leadership behavior (Harms and Credé, 2010; Walter et al., 2011). Nevertheless, it is not clear what determines EI. In order to test the influence of culture on EI, we utilized a sample consisting of nine countries, covering seven cultural clusters. The results show that especially collectivism, uncertainty avoidance, and long-term orientation have a positive effect on the four facets of EI.

5.1. Self emotional appraisal

Our results provide support for the hypotheses that uncertainty avoidance and long-term orientation are positively related to self emotional appraisal. In contradiction to our hypothesis, collectivism is positively associated with self emotional appraisal. This suggests that individuals in countries with a higher degree of collectivism have better abilities to understand their own emotions and are better able to express their emotions. Individuals who are able to understand their own emotions and are able to express their emotions also possess the ability to better express the importance of a situation through their emotions, i.e. leading to a collective behavior. Therefore, the ability of self emotional appraisal may function as a coordination mechanism within collective societies. Our results show mixed support for masculinity and power distance.

5.2. Others' emotional appraisal

In line with our hypotheses, our results show that collectivism and long-term orientation are positively related with others' emotional appraisal. We find no support for the negative relationship between power distance and others' emotional appraisal. In contrast to our hypothesis, we find a positive relationship between uncertainty avoidance and others' emotional appraisal for the overall sample. That is, our results do not provide support for Schimmack's (1996) and Matsumoto's (1989) proposal that high uncertainty avoidance is related to lower recognition of emotions. Our results indicate that individuals scoring high in uncertainty avoidance might be observing others' emotions more thoroughly in order to avoid any future uncertainties. In addition, in opposition to the hypothesized relation, we find a positive relationship between masculinity and others' emotional appraisal for the Chinese sample.

Table 9
Regression results for use of emotion.

Variable	China	Colombia	Germany	India	Italy	Russia	Spain	Turkey	U.S.A.	Pooled
Controls										
Age	.02	.00	.00	.01	.06*	.02	.01	.02	−.01	.01
Gender (female)	.08	.10	.15†	.07	.06	.05	−.05	.12	.23*	.11**
Cultural dimensions										
Collectivism (H4a −)	.14**	−.05	.00	.09	.02	.00	.08	.15*	.11†	.08***
Masculinity (H4b +)	.07	.12*	.06	.00	−.08	−.06	−.01	.03	−.11†	.01
Power distance (H4c −)	−.05	−.05	−.02	−.03	.04	.02	−.02	−.08	.02	−.02
Uncertainty avoidance (H4d +)	−.04	.11	.03	.11†	.13	.02	−.02	.14**	.10†	.09***
Long term orientation (H4e +)	.29***	.09	.30***	.20***	.42***	.59***	.41***	.31***	.11*	.24***
Constant	1.46*	3.13***	2.34***	2.12***	.38	1.59***	1.88*	.95	3.28***	2.42***
Country dummies	–	–	–	–	–	–	–	–	–	Included
F	8.09***	1.28	4.41***	3.81**	5.70***	20.37***	5.63***	6.91***	4.82***	24.41***
R^2	.19	.04	.11	.09	.17	.32	.18	.21	.11	.16
Adjusted R^2	.16	.01	.09	.07	.14	.30	.15	.18	.09	.15
n	261	202	255	276	198	224	185	196	270	2067

Note: Unstandardized regression coefficients are presented. The U.S. sample is the baseline in the pooled sample regression model.
† $p < .10$.
* $p < .05$.
** $p < .01$.
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5.3. Regulation of emotion

Our results show that collectivism and long-term orientation are positively associated with regulation of emotion, providing support for our hypotheses. Contrary to our hypothesis, uncertainty avoidance is positively related to the regulation of emotion. Individuals that are better able to control their emotions might reduce uncertainty related to their behavior in the eyes of others. The results provided only limited support for the negative relationship between masculinity and regulation of emotion. We found mixed results for the relationship between power distance and regulation of emotion.

5.4. Use of emotion

The hypothesized positive relationships between use of emotions and uncertainty avoidance as well as long-term orientation were supported by our results. For the masculinity–use of emotion relationship we found limited support. We found no support for the relationship between power distance and use of emotion. In contrast to our hypothesis, collectivism was positively related to the use of emotions. This result suggests that in countries with a higher degree of collectivism, individuals are better able to channel their emotions in constructive ways that might benefit not only the individual but also the collective group. The potential rewards of collective action might positively influence individuals to direct their emotions in a way that is favorable for the group outcome.

Our results also provide a more fine-grained empirical understanding of how gender affects EI. While previous research suggests that women score higher on EI (e.g., Day and Carroll, 2004; Mandell and Pherwani, 2003; Van Rooy et al., 2005), our results show that the influence of gender depends on the dimension of EI. In addition, while prior research investigated the measurement invariance of Wong and Law's (2002) EI scale focusing on countries, regions, or using smaller number of countries (e.g., Fukuda et al., 2012; Libbrecht et al., 2012), to the authors' knowledge, the present study describes the results of the first large scale effort to test measurement invariance for the Wong and Law (2002) construct. In the following, we will discuss the theoretical and practical implications of our findings.

5.4.1. Theoretical implications

So far, theoretical considerations and empirical studies have only been interested in the relationship between cultural values and two dimensions of EI, namely self emotional appraisal and others' emotional appraisal. We examine all four EI dimensions suggested by Wong and Law (2002) and all five cultural dimensions suggested by Hofstede (2001), in order to provide a more comprehensive understanding of the influence of culture on EI. In this way we answer recent calls to examine emotional intelligence cross-culturally (e.g., Rajah et al., 2011) and extent the previous findings (e.g., Shipper et al., 1993). Our results show that specific cultural dimensions are antecedents of EI. Individuals from countries scoring high on collectivism seem to be more emotionally intelligent. A collectivistic society expects cohesion with peers and, therefore, individual emotions are controlled; even though own emotions are recognized, they might be suppressed for the benefit of the collective. Since emotions are not shown openly, it is also difficult to observe and recognize emotions of others. Nevertheless, emotions are used as performance facilitators. Uncertainty avoidance is positively related to EI. In cultures where avoiding uncertainties is a central principle, it is important to observe others and interpret their behavior, as well as understand one's own emotions and be able to regulate them. Individuals avoiding uncertainties try to understand others' emotions and also adapt their own behavior in order to avoid misunderstandings and unpleasant situations. Individuals who have a stronger focus on the future (long-term orientation) are willing to invest in the necessary time and effort to understand others' emotions, their own emotions, and also regulate and use them. To the best of our knowledge, long-term orientation has not been examined in the context of EI or with respect to emotions in general in prior research. In line with the existing meta-analytic evidence (Taras et al., 2010), our results show that individualism–collectivism is not the strongest predictor of emotional intelligence. Our findings indicate that out of the five cultural dimensions long-term orientation showed the highest effect sizes for the relationships between cultural dimensions and EI. In accordance with previous studies (e.g., Matsumoto, 1989), no relationship between masculinity and emotions could be established in the present study. We could also not find a relation between power distance and EI.

Only a limited number of prior studies examined the antecedents of EI. Therefore, it is relatively difficult to compare our findings with the effect sizes identified for other determinants of EI. Meta-analytic evidence (Joseph and Newman, 2010) suggests that personality traits and conceptual ability affect EI. According to these findings conscientiousness is moderately related to emotion perception ($r = .25$), agreeableness is moderately related to emotion regulation ($r = .23$), and conceptual ability is moderately related to emotion understanding ($r = .31$). These findings suggest that on average personality traits and to some extent also conceptual ability seem to be stronger predictors of emotional intelligence than the five cultural dimensions. Compared with the effects of demographic variables on emotional intelligence in previous studies as well as the effects identified in the current study, in particular, long-term orientation was often a stronger predictor of the emotional intelligence facets than age and gender.

Prior research suggests that parental EI is one of the strongest predictors of adolescent EI (Vernon et al., 2008). Our results support these findings. Individuals' beliefs, norms, and values are transferred by socialization. EI is seen as an ability in the literature (Wong and Law, 2002). Our findings suggest that cultural dimensions affect the emergence of this ability and that the different EI dimensions are affected by socialization processes, as proposed in a more general context by Oyserman et al. (2002) and in a more explicit setting by Taras et al. (2010, 2012).

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EI does not distinguish between negative and positive emotions; nevertheless, the literature on emotions examines the difference between them. Our results show that the three cultural dimensions discussed above have a positive influence on EI measured using the instrument provided by Wong and Law (2002), who operationalized EI in a neutral way, not distinguishing between positive and negative emotions. As described above, meta-analytic evidence suggests that EI affects different outcomes relevant for human resource management and organizational behavior. Meta-analytic evidence also suggests that cultural norms and values have an effect on these outcomes (e.g., Dulebohn et al., 2011; Leong and Fischer, 2011; Rockstuhl et al., 2012). Based on our results, future theory building should consider the mediating role of EI on the relationship between cultural dimensions and the different outcome variables identified in prior research. Furthermore, future research on antecedents of EI should control for the identified cultural dimensions.

In addition to the identified cultural influences, gender, which was included as a control variable, had a significant influence on all four dimensions of EI. Females scored lower on self emotional appraisal and regulation of emotion than men. However, they scored higher in others' emotional appraisal and use of emotion. These results provide a more detailed understanding of gender in the development of EI. Prior research mainly operationalized EI as a composite measure including all four facets. As a result, the overall effect of gender on EI might have been diluted and might appear negative due to the moderately high negative effects compared to the smaller positive effects for the different facets. In this way, our results contribute to current research in this specific research area (e.g., Thory, 2013).

5.4.2. Practical implications

Cherniss (2001) observes that as one "looks deeply at almost any function that influences organization effectiveness you will find that emotional intelligence plays a role" (p. 4). Goleman (1998) concurs by indicating that his research has found "for jobs of all kinds, emotional competencies were twice as prevalent among distinguishing competencies as were technical skills and purely cognitive abilities combined" (p. 23). Therefore, EI clearly has a potentially important role to play in business practice, and this study suggests that cultural dimensions do have a relatively small, but significant, impact in our sample of university students explaining from 7% to 15% of the variance in the pooled sample for the four EI competencies. While the U.S. plays a prominent role in the research and development of EI concepts and practices it clearly has captured the interest of internationally-based organizations (Engelberg and Sjoberg, 2005; Goetz et al., 2005). In a review of the literature regarding the impact of EI in the workplace, Abraham (2005) found evidence of emotional intelligence influencing personnel selection, organizational leadership abilities, workgroup cohesion, effective performance feedback processes, improved work performance, increased organizational commitment and citizenship, improved employee job control, as well as improved employee self-esteem. Therefore, EI clearly has a potentially important role to play in a wide range of business practices, and this study suggests that cultural dimensions do have a relatively small, but significant, impact in our sample of university students explaining from 7% to 15% of the variance in the pooled sample for the four EI competencies. Our results also suggest that national cultures differ in their impact on each of these EI competencies. It should be noted that research has shown that workforce (and classroom-based) training can have a positive effect on EI (Bagshaw, 2000; Cherniss and Caplan, 2001; Clarke, 2010; Dulewicz and Higgs, 2004; Groves et al., 2008; McEnrue et al., 2009; Turner and Lloyd-Walker, 2008). Therefore, not only does this study raise the issue of the potential value in examining cultural dimensions at the individual-level when assessing EI during the selection of personnel (Taras et al., 2011), but that these country differences also may be used as areas on which to focus when assessing the level of developmental need in employees from different cultural settings, as well as in the design of training and development programs (Taras et al., 2011). Thus, it would be important for international businesses that are developing and conducting training programs to assess the differences of their employee group and individual EI profiles in differing countries to better reinforce culturally-related strengths and to better focus on culturally-related weaknesses that may exist. For example, our data suggests that new hires, especially those recently graduated from the university, coming from cultures with relatively low uncertainty avoidance, or who individually possess low uncertainty avoidance, may have a great need for training which emphasizes self emotional appraisal, while those individuals from long-term oriented cultural backgrounds, or who individually possess high long-term orientation, may need less developmental emphasis on the use of emotions.

Recent research suggests that emotional intelligence is an important determinant of expatriate performance (e.g., Koveshnikov et al., 2013; Lin et al., 2012). Given the mixed empirical findings across different nationalities regarding the cultural adjustment of expatriates, our findings suggest that differences in expatriates' cultural norms and values and, consequently, in their emotional intelligence may affect their ability to adjust to the foreign environment. These insights may help in the selection, training, and development of potential expatriates to ensure expatriation success. These results also have implications for the universities in a number of countries that are working specifically to develop EI abilities in their students. Many of these universities have international students who may well have different culturally-related EI profiles resulting in differing developmental needs than those of the majority of local students. Thus, the need to examine individual EI profiles at the outset of a development program is underscored. Cherniss and Goleman (2001) have argued that self-appraisal is perhaps the most important EI factor, as without this factor being strong, the others may not be able to be fully developed. These data suggest that cultural differences may be particularly acute for the self-appraisal factor. For both academic and non-academic organizations the implication for this finding is that cultural generalization for self-appraisal should not be made and that this factor must be carefully assessed and addressed at an individual level.

While it should be noted that the research is mixed as to whether or not there are differences between men and women with regard to EI (e.g., Engle and Nehrt, 2011; Gartzia and van Engen, 2012), at the EI component level our pooled sample data suggest that women tend to have a greater ability to appraise the emotional status of others than do men, and men tend to have a stronger

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ability to regulate and effectively use their emotions than do women. This knowledge may assist both managers and human resource development departments in assessing and focusing on these skill areas. However, it is important to note that these data also suggest that when selecting and/or developing employees, one should consider cultural dimensions to help guide them in their assessment. Especially as organizations search for employees for tasks involving a necessity for EI, such as managerial positions, our results provide help in selecting and training employees, and thereby contribute to optimizing the selection process of managers. Specific training on EI not only positively influences the manager's performance but also increases the satisfaction and work performance of the entire work team as leader behavior is shown to have culture-specific effects (Engelen et al., 2013). It is also important to recognize that each country's culture and its impact on EI components may differ significantly from culture–EI relationships within other countries and that the individuals whom the managers are working with may have a cultural profile which differs from their own profile, suggesting that managers use different HR tools to develop EI in the individuals that they supervise (Herkenhoff, 2004). That is, a manager might be leading a team of employees from various cultural backgrounds, which appraise, recognize, and use emotions in different ways (Muethel and Hoegl, 2010). Recognizing the influence of culture on the EI of the team members might help to understand their behavior better and thereby increase the team efficiency.

5.4.3. Limitations and future research directions

As interpreting the results of our study, the following limitations should be considered which also provide avenues for future research. First, provided the current stage of literature on culture's influence on emotions and on EI, our hypotheses might appear somewhat simple. The literature has so far considered the influence of culture on only two out of the four facets of EI, making hypotheses development a challenge. As the literature in this field evolves, follow-up studies should consider testing more specific hypotheses proving more detailed information on the relation between culture and EI. Second, our study is based on a student sample, which, on the one hand, allows not only comparing homogeneous samples across countries but also limiting the generalizability of the results. Especially, the results for power distance and masculinity could be influenced by the sample. Steel and Taras (2010) note that personal factors, such as age, education, and position in the corporate ladder might influence the individual culture and, therefore, the values and norms which students possess might not necessarily reflect the ones of managers who are older, have higher education, and are on high positions in an organization. Future research might consider using a non-student sample. Third, our study presents a sample which, to our knowledge, is one of the largest examining EI as well as cultural dimensions at the individual level. However, we were able to cover only seven from the nine cultural clusters presented by Ronen and Shenkar (1985). Our study is missing samples from the Nordic countries as well as the Arab world. Therefore, our results are not generalizable for these countries. Even though we did try to include more than one country from each cluster as well as more than one university in each country, it was not possible to completely accomplish the goal. Thus, we are not able to examine intra-country and regional effects. Future research should aim at covering more countries and regions within the countries to provide a more comprehensive analysis. Fourth, using the recommended translation procedures as well as MGCFA procedure, we have tried to accomplish a comparability of the constructs and the results. Whereas the reliability for EI was good, the reliabilities for the cultural dimensions could be improved. Future research should use already available translations of the constructs of which validity and reliability has already been tested by previous studies in order to contribute to the development and improvement of relatively new scales, such as the cultural value scale by Yoo et al. (2011). While we were able to establish partial measurement invariance for this scale, more research that compares validity, reliability, and invariance of different scales that measure cultural values at the individual level, such as the one by Sharma (2010)is necessary. Fifth, we used the measure proposed by Wong and Law (2002) for EI. There are several other measures which could have been used (for an overview and critique see, e.g., Conte, 2005). Therefore, our results are not generalizable for EI and future research should consider using other measures. In particular, measures that distinguish between negative and positive emotions might be able to provide a more detailed understanding of culture's influence on EI. Despite these limitations, our study contributes to a better understanding of the emergence and development of EI and highlights that the effects of national culture are an important area of future research (Kothari and Lahiri, 2012). Especially, we cast light on the culture specific aspects of the different dimensions of EI.

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