The following full text is a publisher's version.

For additional information about this publication click this link.
http://hdl.handle.net/2066/86788

Please be advised that this information was generated on 2018-11-20 and may be subject to change.
Emocomp! A Customer Based Scale for Measuring Emotional Competences in Service Employees

Cécile Delcourt
Allard C.R. van Riel
Marcel van Birgelen
Dwayne D. Gremler

MAR10-10

Institute for Management Research

Working Paper Series in Management
Emocomp! A customer based scale for measuring emotional competences in service employees.

**Keywords:** Customer perceived employee emotional competence, scale development, customer experience, emotionally charged service encounter

Cécile Delcourt

*HEC-Management School of the University of Liege, Belgium*

Allard C. R. van Riel & Marcel van Birgelen

*Institute for Management Research, Radboud University, Nijmegen, the Netherlands*

Dwayne D. Gremler

* Bowling Green State University, Ohio, United States*
CONTACT DETAILS

Cécile Delcourt, HEC Management School, University of Liege, Liege, Belgium; Address: 35, rue Saint-Gilles, B-4000 Liege, Belgium; E-mail address: cecile.delcourt@ulg.ac.be; Telephone number: +32 4 232 73 06; Fax number: +32 4 232 72 40

Allard C. R. van Riel, Radboud University, Nijmegen, the Netherlands; Address: P.O. Box 9108, NL-6500 HK Nijmegen, the Netherlands; E-mail address: a.vanriel@fm.ru.nl; Telephone number: +31 24 361 18 68; Fax number: +31 24 361 19 33

Marcel van Birgelen, Institute for Management Research, Radboud University, Nijmegen, the Netherlands; Address: P.O. Box 9108, NL-6500 HK Nijmegen, the Netherlands; E-mail address: m.vanbirgelen@fm.ru.nl; Telephone number: +31 24 361 62 53; Fax number: +31 24 361 19 33

Dwayne D. Gremler, Bowling Green State University, Bowling Green, OH, USA 43403-0266; E-mail address: gremler@bgsu.edu; Telephone number: +1 419 372 0226; Fax number +1 419 372 8062
Emocomp! A customer-based scale for measuring emotional competences in service employees.

Abstract

Customers experience intense negative emotions during various types of service encounters. In such cases, the ability of contact employees to perceive, understand, and regulate these emotions, i.e. to display emotionally competent behaviors, is considered crucial for subsequent service evaluations and loyalty to the provider. Accurately measuring employee emotional competence (EEC) could help service managers to diagnose problems in the service experience and find ways to improve it. Extant measures of EEC are employee-based and often subject to response distortion and faking. Moreover, the use of these scales in service encounters is problematic due to their length. In the present article we develop and validate a concise customer-based measure of EEC. Based on a review of the literature in social psychology, relationship marketing, and services marketing, as well as data gathered from in-depth interviews, we develop a conceptual framework and generate an item pool. The scale is empirically validated by examining its reliability and convergent, discriminant, and predictive validity. The three-dimensional structure of emotional competence suggested by extant literature is confirmed.
Introduction

The occurrence of intense negative emotions is not uncommon during service encounters, given the complex and dynamic nature of many of these encounters (Brown and Kirmani 1999; Dallimore, Sparks and Butcher 2007; Grace 2007; Price, Arnould and Deibler 1995). During these moments of truth (Normann 1983), customers expect contact employees to deal with their emotions and address their emotional needs (Ostrom et al. 2010). Customers’ subsequent evaluations of the encounter and related behavioral intentions are influenced by how well the organization succeeds in dealing with these emotions (Bagozzi, Gopinath and Nyer 1999) and therefore by the extent to which contact employees display emotional competence.

The concept of emotional competence – defined as “the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer and Salovey 1997, p. 10) - has elicited much interest (e.g., Kidwell et al. 2011). While several measurement instruments of employee emotional competence (EEC) exist, they cannot easily be used in a marketing context for a number of reasons:

- First, marketing scholars and practitioners need relatively concise measures (Drolet and Morrison 2001), since they are generally used in combination with other scales. Existing EEC measures often include large numbers of items (between 72 and 153).
- Second, measures of interpersonal competences are needed. The shortest scales available (between 15 and 33 items) focus mainly on intrapersonal abilities (i.e., the ability of the employee to perceive, understand, and regulate their own emotions) to the detriment of interpersonal abilities (i.e., the ability to perceive, understand, and regulate other people’s emotions).
• Third, emotional competence is generally assessed via self-reported measures. These measures are known to be subject to faking, response distortion, and social desirability bias (Day and Carroll 2008). Also, their output may not correlate with customer perceptions of EEC. Individuals tend to hold overly favorable views of their own abilities and therefore may have difficulty in recognizing their own incompetence (Kruger and Dunning 1999).

• Fourth, prior research has developed general, non encounter-specific assessments of emotional competence, assuming that individuals are emotionally competent across situations and across times. Existing scales can therefore not be used to diagnose service encounters.

Currently, no customer-based, concise instrument measuring EEC during service encounters is available. To allow its use as a diagnostic tool, there is a need for a concise, non self-reported, encounter-specific EEC measure. This article introduces this concise, and reliable customer-based measure of EEC.

The article is structured as follows. First, we analyze and define the concept of emotional competence based on a review of the literature. Next, we report the development of a customer-based EEC measure and examine how the construct is related to other components of the service encounter experience in an empirical study. We conclude the article by discussing the academic and managerial implications of our findings and providing directions for further research.

**Defining Emotional Competence**

Emotional competence refers to a set of emotional abilities (Mayer and Salovey 1997) which result in observable behaviors (Giardini and Frese 2008; Zeidner, Matthews and Roberts 2004). Emotional competence is generally viewed as consisting of four intertwined abilities: (1) *emotion perception*, referring to the accuracy with which individuals can identify emotions in themselves and in other people; (2) *emotion facilitation*, referring to the ability to use or assimilate emotions to facilitate thought; (3) *emotion understanding*, referring to the ability to understand how emotions evolve over time, how emotions differ from each other, and which
emotion is most appropriate for a given context; and (4) emotion regulation, referring to the ability to manage not only one's own, but also other people's mood and emotions (Mayer and Salovey 1997). Table 1 provides an overview of the main instruments that have been developed to measure emotional competence and its dimensions. Since emotional competence is considered to be a learned capability based on emotional intelligence (Boyatzis, Goleman and Rhee 2000), we develop our conceptual understanding based on both the emotional intelligence and the emotional competence literatures.

So far, as shown in Table 1, the concept of emotional competence has been mainly investigated in a human resources management context, inside organizations, and from an employee perspective (e.g., Law, Chi-Sum and Song 2004; Mayer and Salovey 1997). Joseph and Newman (2010) recently published a meta-analysis of studies focusing on the effects of emotional competence on job performance. They indicate that employees behave in emotionally competent ways by successively using three of the four above-mentioned abilities. Emotion perception precedes emotion understanding, which in turn precedes emotion regulation (c.f., Joseph and Newman 2010). In the present study, we are interested in contact employees' emotionally competent behaviors to the extent that they are observable by and matter to customers. In line with Joseph and Newman (2010), we exclude emotion facilitation from our study because of its conceptual redundancy with respect to the three other dimensions and a lack of empirical support for its existence as a separate dimension (Gignac 2005; Palmer et al. 2005; Rossen, Kranzler and Algina 2008).

**Research Design and Execution**

To develop a reliable and valid customer-based measure of EEC, we adopt the scale development process recommended by Netemeyer, Bearden and Sharma (2003). This process consists of five stages: (1) specification of the domain of the construct by means of a review of
literature and a qualitative study, (2) item generation and verification of content validity, (3) questionnaire development and data collection, (4) scale purification, and (5) assessment of reliability and validity of the scale.

Stage 1: Specifying the Domain of the Construct

To begin developing a customer-based measure of EEC, we looked for commonly cited dimensions of emotional competence in the psychology literature and subsequently identified three primary dimensions.

We use Mayer and Salovey’s (1997) definition of emotional competence as a starting point, and first redefine their dimensions to better suit the customer perspective in service encounters. This operation results in three adapted dimensions. Our first dimension, *perception of customer emotions* (PCE), reflects customer perceptions of the employee’s ability to identify emotions in customers through language, appearance, and behavior. As customers express emotions, the ability of employees to perceive these emotions is crucial since they convey information about their needs (Schwarz and Clore 1983). Our second dimension, *understanding of customer emotions* (UCE), refers to the employee’s ability to recognize customer emotions and to interpret their causes. As customers express emotions, employees should not only perceive these emotions, but also understand their meaning. Our third dimension, *regulation of customer emotions* (RCE), refers to the employee’s ability to manage emotions in customers by mitigating negative emotions and enhancing pleasant ones.

Subsequently, a qualitative study was undertaken to explore which aspects of EEC are salient for customers during service encounters, to find support for the suggested three-dimensional structure of emotional competence, and to help generate items (Churchill 1979). It is recommended to interview a minimum of eight to ten respondents (Calder 1977). We therefore conducted in-depth interviews with 13 respondents recruited through a network of acquaintances of one of the authors. Care was taken to select respondents varying in terms of gender, age, and
education level, as well as being relatively heterogeneous in their use of service types and providers. Each interview lasted for 60 to 90 minutes and all interviews were recorded and transcribed. Respondents were asked to describe contact employee behaviors during a service encounter during which they had experienced negative emotions. Respondents each reported one or two different service encounters, resulting in descriptions of a total of 18 encounters.

Negatively emotionally-charged service encounters deserve special attention because they are more likely to (a) elicit specific emotional needs that require the attention of contact employees (Price, Arnould and Deibler 1995), (b) be memorable (Price, Arnould and Tierney 1995) and, thus, (c) influence important outcomes such as overall satisfaction (Grace 2007). After describing the service encounter in which they had experienced negative emotions, respondents were asked to explain their emotional state before, during, and after the encounter, and to explain why they experienced these emotions. Then, respondents were asked to evaluate the presence and the role of emotionally competent behaviors of employees during the service encounter.

In our content analysis of the transcriptions we found support for the suggested three-dimensional structure of EEC (see Table 2). The interviewed customers were indeed aware of the abilities of employees to (a) perceive their emotions (e.g., “She recognized [by] the tone of my voice that something wrong was going on”), (b) understand their emotions (e.g., “It was important to me that the doctor [...] understood why I was so anxious”), and (c) regulate their emotions (e.g., “She really tried to manage the nervousness among the passengers”).

The illustrative comments provide some support for the suggested three-dimensional structure of EEC. In the next stage we report on our attempt to develop and assess the validity and reliability of the EEC measure and empirically explore the role of emotional competence in the service encounter.
Stage 2: Generating Scale Items and Establishing Content Validity

Based on our literature review and the qualitative study described in stage 1, we generated a list of items to allow us to capture the three dimensions of EEC from the customer’s perspective. In particular, we identified existing measures of emotional competence in the literature and selected and adapted items with respect to an employee’s ability to perceive, understand, or regulate other people’s emotions. We also asked the respondents from the qualitative study to report employee behaviors that were observable to them and which demonstrated the employee’s ability to perceive, understand, or regulate customer emotions. In total, we generated a list of 80 items, which were subsequently examined for content validity. Content validity refers to “the degree to which elements of a measurement are relevant to and representative of the targeted construct for a particular assessment purpose” (Netemeyer, Bearden and Sharma 2003, p. 86). To accomplish this task, eleven scholars (i.e., PhD students and professors from psychology and marketing departments) were provided with our definitions of emotional competence and its dimensions and instructed to rate the conciseness, representativeness, specificity, and clarity of each item (DeVellis 2003; Netemeyer, Bearden and Sharma 2003). The use of experts to assess the adequacy of a scale’s domain is common practice in marketing (e.g., Sweeney and Soutar 2001). Traditionally, at least ten experts are asked to evaluate the content validity of the scale (e.g., Spake et al. 2003). These experts qualitatively (through a written report) and quantitatively (through an evaluation of the representativeness of each item on a five-point Likert scale of representativeness) evaluated the items (Netemeyer, Bearden and Sharma 2003). This stage helped to identify items that needed to be deleted or refined. Items deemed to be unrepresentative by two or more judges and/or incongruent in the written reports were deleted. On this basis, thirty-three items were removed from the item pool, and a refined pool of 47 items was retained.
Stage 3: Developing Questionnaire and Collecting Data

To assess the adequacy of the pool of items, a questionnaire was constructed which asked respondents to think about one negatively emotionally-charged service encounter they experienced and to answer questions about that specific encounter. All information was collected anonymously, to encourage respondents to share personal or intimate situations (e.g., a service encounter with a physician) and thus to reduce the degree of common method bias (Podsakoff et al. 2003). In total 144 questionnaires were collected from college students and 167 from staff members of a business school. After deletion of unusable questionnaires (i.e., observations with more than 10% missing values (Hair et al. 2006), 112 usable questionnaires from the students and 135 from the staff members (n = 247) remained. On average, the incident happened 1.5 years ago, lasted some 30 minutes and occurred in 56.3% of the cases with a male contact employee. The mean age of the respondents was 34, and 65.9% of them were female. Six sectors accounted for 75.3% of the reported critical incidents: medical sector (28.7%), retailing (16.2%), public sector (9.7%), hotels/restaurants (6.9%), banking/insurance services (5.3%). Finally, face-to-face interactions was the most frequent type of communication used (82.2%), compared to voice-to-voice interactions (16.6%), or (e-)mail-to-(e-)mail interactions (1.2%).

Data were collected using an online questionnaire including the set of 47 items. The instrument aimed to measure the three dimensions of emotional competence. We used two different ranges (5-point and 7-point Likert scales) for the measures in a further attempt to reduce common method bias (Podsakoff et al. 2003). To allow the assessment of discriminant and predictive validity of the construct, respondents were further asked to respond to a series of additional items. To evaluate discriminant validity, we included a measure of employee empathy and employee assurance from the SERVQUAL scale. Empathy and assurance capture two dimensions of employee interpersonal abilities (Parasuraman, Berry and Zeithaml 1991). We also included measures of customer perceptions of the ability of employees to establish rapport
(Gremler and Gwinner 2000), and employee positive and negative affectivity (Watson, Clark and Tellegen 1988), as each of these constructs is related to, but conceptually distinct from, EEC. To evaluate predictive validity we included in the questionnaire several components of the service encounter experience, which is defined as “the service encounter and/or service process that creates the customer’s cognitive, emotional and behavioral responses which result in a mental mark, a memory” (Edvardsson 2005, p. 129). These components include measures of encounter satisfaction (van Dolen, de Ruyter and Lemmink 2004), positive and negative emotions (van Dolen, de Ruyter and Lemmink 2004), affective commitment to the contact employee (Gruen, Summers and Acito 2000; Verhoef 2003), and loyalty intentions regarding the company (Zeithaml, Berry and Parasuraman 1996). We also included a measure of loyalty intentions regarding the contact employee by adapting the measure from Patterson and Smith (2003) and Zeithaml, Berry and Parasuraman (1996). We did this, since loyalty to the company and loyalty toward the contact employee might differ for some respondents. For the measures used to evaluate discriminant and predictive validity we used seven-point Likert scales. For an overview of the scales, see Appendix 1. For each measure we selected at least three items and excluded the reversely coded items for reasons of length and validity. Descriptive analyses show that the skewness and kurtosis are limited and well within the ‘rule of thumb’ of |2|. Only a few items were above the value of |2|.

**Stage 4: Purifying the Scale: Exploratory and Confirmatory Factor Analysis**

Before conducting an exploratory factor analysis, we tested for invariance of the measurement model across the two samples by means of a multi group analysis (Byrne 1998) in LISREL 8.50 (Jöreskog and Sörbom 1993). The two groups consisted of students versus employees. This analysis allowed us to determine if the measurement model of EEC is influenced by the profile of the respondents. To establish a baseline for comparison purposes, we used a model in which all measurement parameters were constrained to invariance across the two
samples. We then relaxed the invariance constraint for each indicator, one at a time, and examined whether this resulted in a significant increase in the model’s chi-square value. No significant chi-square value increase was observed. Therefore, both samples could be aggregated since the measurement model did not differ significantly between the two subsamples. Next, an inspection of inter-item correlations resulted in the removal of eight items with correlations below .40. In total, 39 items were retained after this analysis.

Subsequently, we conducted an exploratory factor analysis in SPSS 12.0 with the 39 remaining items (a) to explore the dimensionality of the scale and (b) to further reduce the number of items in the scale so that the remaining items maximize the explained variance in the scale and maximize the scale’s reliability (Netemeyer, Bearden and Sharma 2003). Because a principal components analysis mixes common, specific, and random error variances, we used principal axis factoring instead (Netemeyer, Bearden and Sharma 2003).

To identify the number of factors, we relied on the scree plot test, and determined the amount of variance explained. Both the scree plot test and amount of variance explained suggested a three-factor structure explaining 60.7% of the variance. To make factors more easily interpretable and item retention and deletion more meaningful, we rotated the factors. Since the goal of an exploratory factor analysis for scale development is to look for the degree to which multiple dimensions correlate, we used an oblique rotation method (direct oblimin) (Netemeyer, Bearden and Sharma 2003).

After undertaking a three-dimensional principal axis factor analysis on the 39 items with oblique rotation, a three-factor pattern emerged. In line with the procedure suggested by Netemeyer, Bearden, and Sharma (2003), the iterative deletion of 23 items that had low loadings (<.50) and/or low communalities (<.50) (Hair et al. 2006) resulted in 16 remaining items. At this point, all items that did not meet the criteria had been removed. A final exploratory principal
components analysis was undertaken on the reduced set of 16 items revealing a clear three-factor pattern explaining 74.4% of the variance (see Table 3).

We conducted a confirmatory factor analysis in LISREL 8.50 (Jöreskog and Sörbom 1993) on this data set and compared a series of alternative models, namely:

- A one-factor model;
- A two-factor model in which ‘perception of customer emotions’ and ‘understanding of customer emotions’ are combined to represent a single dimension (i.e. ‘appraisal of customer emotions’), in addition to ‘regulation of customer emotions’ since emotion appraisal has been operationalized as the ability to perceive and understand other people’s emotions (Law, Chi-Sum and Song 2004);
- A three-factor model.

The results, shown in Table 4, support the proposed three-factor solution, comprised of employee perception, understanding, and regulation of customer emotions. Not only does this model have the lowest \( \chi^2 \) (234.21), highest GFI (.89), highest NFI (.92), and highest CFI (.95), but also a good RMSEA (.075). The results of the confirmatory analysis are provided in Table 3. All items have a loading equal to or higher than .63 on their respective constructs with a minimum t-value of 10.48.

Stage 5: Assessing Reliability and Validity

High levels of reliability were found for the emotional competence scale. The reliability of the individual dimensions, assessed as composite reliability, was equal to .94 (see Table 3). The next step in the scale development process was to assess construct validity, which refers to “how well a measure actually measures the construct it is intended to measure” (Netemeyer, Bearden and Sharma 2003, p. 11).
Convergent validity refers to “the extent to which independent measures of the same construct converge, or are highly correlated” (Netemeyer, Bearden and Sharma 2003, p. 86). As demonstrated in Table 5, convergent validity for our measure is supported as the average variance extracted (AVE) clearly exceeds .50 for all dimensions (Fornell and Larcker 1981) (AVE values range from .83 to .92). We further tested for convergent validity of the three dimensions of EEC by examining the correlations of the three dimensions, ranging from .38 to .57 (see Table 5). This analysis supports the convergent validity of the scale, since the dimensions share a moderate proportion of variance.

Discriminant validity refers to “the extent to which measures diverge from other operationalizations from which the construct is conceptually distinct” (Netemeyer, Bearden and Sharma 2003, p. 86). We assessed discriminant validity in three ways. First, we tested for discriminant validity between the three dimensions of emotional competence. For each pair of dimensions, we checked that the squared root of AVE for each dimension was greater than the correlation between any two dimensions. This requirement was met for all pairs of dimensions, with the squared root of the AVE ranging from .83 to .92, and exceeding the correlation in all cases (as indicated in Table 5, the maximum correlation is .57). These results support the discriminant validity of the dimensions included in the scale. Second, respondents were asked about the ability of the employee to establish rapport with them (Gremler and Gwinner 2000) and about employee positive and negative affectivity (i.e., the extent to which a person feels enthusiastic versus sad) (Watson, Clark and Tellegen 1988). Table 5 reveals low to moderate correlations between the dimensions of emotional competence and all of these related constructs, suggesting that the emotional competence measure does possess discriminant validity. Overall, these results support the distinctness of the dimensions of EEC from other constructs.
Predictive validity of a measure is defined as its “ability to effectively predict some subsequent and temporally ordered criterion” (Netemeyer, Bearden and Sharma 2003, p. 86). To test for predictive validity, we estimated a model in LISREL 8.50 with EEC as the independent variable and measures of positive and negative customer emotions after the encounter (Hennig-Thurau et al. 2006; Schoefer and Diamantopoulos 2008), affective commitment (Moorman, Zaltman and Deshpande 1992), service encounter satisfaction (van Dolen, de Ruyter and Lemmink 2004), and customer loyalty (Oliver 1999; Zeithaml, Berry and Parasuraman 1996) as the dependent variables (see Figure 1). We chose these dependent variables since they represent key components of the service encounter experience and since these variables have been shown to be influenced by customer perceptions of employee behaviors (e.g., Gremler and Gwinner 2000).

All dependent variables were found to be positively and significantly related to EEC (path coefficients are ranging from .33 to .81) - except for the variable “negative emotions after the encounter”, which is negatively predicted by EEC (path coefficient of -.21). These results suggest that the scale meets the requirements for predictive validity.

<Insert Figure 1 about here>

Discussion

The adage “what does not get measured does not get managed” still holds true. An effective diagnosis and management of service encounters is hampered by the absence of a concise, reliable, and valid instrument to measure EEC during service encounters. Therefore, this article aimed to conceptualize, construct, and refine a customer-based measure of EEC. Evidence from a quantitative study supports the discriminant, convergent, and predictive validity of the scale. We found that the three dimensions identified by previous studies are not only conceptually and empirically distinct but also are applicable when examined in service encounters. Customers evaluate EEC on three primary dimensions: employee ability to (a) perceive customer emotions,
(b) understand customer emotions, and (c) regulate customer emotions. In addition, emotional competence seems promising in contributing to desired customer outcomes such as customer satisfaction, and behavioral intentions.

Limitations

As with any study, this research has several limitations that suggest potential avenues for future research.

First, as recommended by Netemeyer, Bearden, and Sharma (2003), additional studies are needed to further confirm the validity of the emotional competence instrument. Particularly, we need to know how EEC is causally related to customer evaluations of the service encounter experience. A study could be conducted to develop and test a model demonstrating how EEC contributes to a change in customer affect and to customer evaluations of the service encounter by using multiple samples.

Second, our understanding of emotional competence leads us to believe that it has the potential to affect customer evaluations of the service encounter experience in various service encounters. However, our study has been conducted in negatively emotionally charged service encounters. Future research could therefore investigate the role of contact emotional competence in more “traditional” service encounters (i.e., weakly emotionally charged service encounters) and/or positively emotionally charged service encounters (e.g., visit to a wellness centre) and contrast it with negatively emotionally charged service encounters.

Third, the data collection was conducted in one region of the world. However, cultural differences exist (Mattila 1999). For instance, American and Japanese customers differ when evaluating employee behaviors during service encounters (Winsted 1997). Therefore, this study should be replicated in other parts of the world to confirm our results.

Finally, we must caution for the possibility of common method bias even though care was taken in the questionnaire construction to reduce this bias (Podsakoff et al. 2003).
Research Implications

In addition to the suggestions derived from our limitations, further studies could be conducted to deepen our understanding of the role of EEC in service encounters.

First, verbal, nonverbal (e.g., gestures), and paraverbal (e.g., tone of voice) modes of expression are intertwined in service encounters. Regarding emotional competence, which mode of expression is best observed by customers? What if one mode is not congruent with another? How do customers react when there is incongruence between the three modes? An experiment could be conducted to help us to better understand through which modes of expression EEC is more likely to be perceived by the customer.

Second, future research could take the dynamics of the service encounter into account. Therefore, it may be worthwhile to study customer perceptions of EEC over time to be able to take into account the dynamics of employee-customer interactions and to follow the build up or breakdown of key outcomes of customer experience of the service encounter such as customer satisfaction.

Third, emotional competence and technical competence are often contrasted and compared (e.g., “this physician is technically competent and highly intelligent but he does not have any emotional sensibility”). There is limited understanding of how these two types of competence interact. Does emotional competence need to be combined with other specific abilities, such as technical competence, to favorably impact customer perceptions of the service encounter experience? What if a contact employee has high (vs. low) technical competence but low (vs. high) emotional competence? What is the impact of these two types of competence on key outcomes of the customer experience of the service encounter? Answers to these questions can provide service managers with practical advice for managing service encounters.
Managerial Implications

Because employees that perceive, understand, and regulate customer emotions increase their added value during service encounters, our results also have managerial relevance. Since emotional competence can be taught, learned, and improved (e.g., Nelis et al. 2009), and assessed, service managers should take all three dimensions of EEC into account. Our EEC measure may help service managers to diagnose and improve EEC during service encounters, but also human resources managers in their decisions of training and promoting personnel.

Service managers should encourage their employees to (a) identify emotions in customers’ language, appearance, and behavior (i.e., perception of customer emotions), (b) recognize customer emotions and interpret their causes (i.e., understanding of customer emotions), and (c) manage customer emotions by moderating negative ones and enhancing pleasant ones (i.e., regulation of customer emotions).

Service managers can use the scale to track EEC over time and across contact employees. Understanding EEC at the dimensional level enables service managers to measure and quantify employee strengths and weaknesses and use that knowledge for improvement and training. Tracking emotional competence over time will enable service managers to have insight into which behavioral aspects relate to customer evaluations of individual service encounters and which aspects are likely to affect longer term customer perceptions.

Finally, insight into EEC and its impact on customer evaluations and perceptions of the service encounter can be used in the recruitment of contact employees. Assessment of emotional competence may be used as an integral part in the hiring process.
<table>
<thead>
<tr>
<th>Name of the Measure and Authors</th>
<th>Definition Used to Construct the Measure</th>
<th>Number of Items, Subscales, Dimensions</th>
<th>Domain</th>
<th>Response Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI (Boyatzis, Goleman and Rhee 2000)</td>
<td>“Emotional intelligence is observed when a person demonstrates the competencies that constitute self-awareness, self-management, social awareness, and social skills at appropriate times and ways in sufficient frequency to be effective in the situation” (Boyatzis, Goleman and Rhee 2000, p. 344).</td>
<td>72 items, 18 subscales, 4 dimensions</td>
<td>General</td>
<td>Self-report Manager and peer report</td>
</tr>
<tr>
<td>EQ-i (Bar-On 1997)</td>
<td>“Emotional intelligence is an array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (Bar-On 1997, p. 14).</td>
<td>133 items, 15 subscales, 5 dimensions</td>
<td>General</td>
<td>Self-reported</td>
</tr>
<tr>
<td>TEIQue (Petrides and Furnham 2003)</td>
<td>“Emotional intelligence posits that individuals differ in the extent to which they attend to, process, and utilize affect-laden information of an intrapersonal (e.g. managing one’s own emotions) or interpersonal (e.g. managing others’ emotions) nature” (Petrides and Furnham 2003, p. 39).</td>
<td>153 items, 15 subscales, 4 dimensions</td>
<td>General</td>
<td>Self-reported</td>
</tr>
<tr>
<td>WLEIS (Law, Chi-Sum and Song 2004)</td>
<td>“Emotional intelligence encompasses a set of conceptually related psychological processes involving the processing of affective information. These processes include (a) the verbal and nonverbal appraisal and expression of emotion in oneself and others, (b) the regulation of emotion in oneself and others, and (c) the use of emotion to facilitate thought” (Davies, Stankov and Roberts 1998, p. 990).</td>
<td>16 items, 4 dimensions</td>
<td>General</td>
<td>Self-reported Supervisor and peer-reported</td>
</tr>
<tr>
<td>SSRI (Schutte et al. 1998)</td>
<td>“The subset of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions.” (Salovey and Mayer 1990, p. 189).</td>
<td>33 items, 1, 3 or 4 dimensions (unclear)</td>
<td>General</td>
<td>Self-reported</td>
</tr>
<tr>
<td>EIME (Kidwell et al. 2011)</td>
<td>“Marketers’ ability to use emotions to facilitate interactions with customers”</td>
<td>15 items, 4 dimensions</td>
<td>Specific (marketing exchanges)</td>
<td>Self-reported</td>
</tr>
<tr>
<td>MSCET (Mayer et al. 2003)</td>
<td>“The ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer and Salovey 1997, p. 10).</td>
<td>141 items, 8 subscales, 4 dimensions</td>
<td>General</td>
<td>Self-reported</td>
</tr>
</tbody>
</table>

(Continued)
<table>
<thead>
<tr>
<th>Scale Name and Authors</th>
<th>ECI (Boyatzis, Goleman and Rhue 2000)</th>
<th>EQ-i (Bar-On 1997)</th>
<th>TEIque (Petrides and Furnham 2003)</th>
<th>WLEIS (Law, Chi-Sum and Song 2004)</th>
<th>SSRI (Schutte et al. 1998)</th>
<th>EIME (Kidwell et al. 2011)</th>
<th>MSCEIT (Mayer et al. 2003)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions and Subscales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB: The dimensions are in bold and a number precedes the subscales.
Table 2: Illustrative Comments Regarding Emotional Competence: In-depth interviews

<table>
<thead>
<tr>
<th>The ability to perceive customer emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I didn’t have the impression that this specialist perceived the extent to which I needed to be reassured. (Rita, 60, discussing a hematologist)</td>
</tr>
<tr>
<td>This architect didn’t notice the way I was behaving [which should have indicated] that I was not at all in favor of his project. (Laurent, 31, discussing an architect)</td>
</tr>
<tr>
<td>She recognized according to the tone of my voice that something wrong was going on. (Marc, 46, discussing a dentist)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The ability to understand customer emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was important to me that the doctor fully listened to my story to understand why I was so anxious. He could have had all the medical information needed just by looking at the blood analyses. However, by looking at the blood analyses, he could not have perceived that I was anxious nor understood why I was so anxious. (Rita, 60, discussing a hematologist)</td>
</tr>
<tr>
<td>I had the impression that the call centre operator listened to my emotions. Besides, he told me that his colleague who will take care of my case was a mother and that she could perfectly understand what a mother can feel when her child is sick. (Brigitte, 49, discussing a call centre operator in an insurance company)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The ability to regulate customer emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>She really tried to manage the nervousness among the passengers of the airplane as much as she could. (Sandrine, 35, discussing an air flight attendant)</td>
</tr>
<tr>
<td>It’s really important that the dermatologist is able to reassure me. (David, 30 years, discussing a dermatologist)</td>
</tr>
<tr>
<td>He looked severe and austere. He didn’t reassure me. He asked me to lie down on the table while he didn’t ask me [any] questions at all! At that moment, I thought: he doesn’t fit me at all; it is not what I expect from an osteopath. A good osteopath has to have to capacity to guess my emotions, to feel my emotions, and to demonstrate empathy. (Thierry, 50, discussing an osteopath)</td>
</tr>
</tbody>
</table>
Table 3: Final Exploratory and Confirmatory Factor Analysis

<table>
<thead>
<tr>
<th>Perception of Customer Emotions (PCE)</th>
<th>Exploratory Factor Analysis</th>
<th>Confirmatory Factor Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor 1</td>
<td>Factor 2</td>
</tr>
<tr>
<td>The employee was altogether capable of recognizing that I was upset.</td>
<td>.90</td>
<td>.03</td>
</tr>
<tr>
<td>The employee was altogether capable of perceiving how I was feeling.</td>
<td>.88</td>
<td>-.04</td>
</tr>
<tr>
<td>The employee was altogether capable of identifying the emotional state I was in.</td>
<td>.74</td>
<td>.04</td>
</tr>
<tr>
<td>The employee was fully aware of my emotional state.</td>
<td>.67</td>
<td>.03</td>
</tr>
<tr>
<td>The employee perfectly interpreted my emotions.</td>
<td>.67</td>
<td>.03</td>
</tr>
</tbody>
</table>

**Understanding of Customer Emotions (UCE)**

<table>
<thead>
<tr>
<th>Understanding of Customer Emotions (UCE)</th>
<th>Exploratory Factor Analysis</th>
<th>Confirmatory Factor Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>The employee perfectly understood the reasons why I was upset.</td>
<td>-.00</td>
<td>.84</td>
</tr>
<tr>
<td>The employee perfectly understood the reasons for my feelings.</td>
<td>.06</td>
<td>.84</td>
</tr>
<tr>
<td>The employee perfectly understood why I was bothered.</td>
<td>.13</td>
<td>.81</td>
</tr>
</tbody>
</table>

**Regulation of Customer Emotions (RCE)**

<table>
<thead>
<tr>
<th>Regulation of Customer Emotions (RCE)</th>
<th>Exploratory Factor Analysis</th>
<th>Confirmatory Factor Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>The employee had a very positive influence on me.</td>
<td>.04</td>
<td>-.09</td>
</tr>
<tr>
<td>The employee did everything to make me feel well.</td>
<td>.10</td>
<td>-.11</td>
</tr>
<tr>
<td>The employee demonstrated a lot of tact to make me feel better.</td>
<td>.04</td>
<td>.02</td>
</tr>
<tr>
<td>I felt completely supported by the employee.</td>
<td>-.05</td>
<td>.08</td>
</tr>
<tr>
<td>The employee positively influenced the way I was feeling.</td>
<td>.04</td>
<td>-.12</td>
</tr>
<tr>
<td>By his behavior, the employee calmed me down.</td>
<td>-.04</td>
<td>.02</td>
</tr>
<tr>
<td>I felt that the employee listened and understood me.</td>
<td>-.04</td>
<td>.14</td>
</tr>
<tr>
<td>The employee understood that the kind of emotions I was experiencing were normal.</td>
<td>-.03</td>
<td>.21</td>
</tr>
</tbody>
</table>

<p>| Eigenvalue | 7.5 | 3.1 | 1.3 |
| % of variance explained | 46.9 | 19.1 | 8.4 |
| % of cumulative variance | 46.9 | 66.1 | 74.4 |
| Composite reliability | .94 | .94 | .94 |</p>
<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>degrees of freedom</th>
<th>Goodness of Fit Index (GFI)</th>
<th>Root Mean Square Error of Approximation (RMSEA)</th>
<th>Normed Fit Index (NFI)</th>
<th>Comparative Fit Index (CFI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-factor</td>
<td>2176.33</td>
<td>104</td>
<td>.46</td>
<td>.292</td>
<td>.54</td>
<td>.56</td>
</tr>
<tr>
<td>Two-factor</td>
<td>602.77</td>
<td>103</td>
<td>.76</td>
<td>.144</td>
<td>.82</td>
<td>.85</td>
</tr>
<tr>
<td>Three-factor</td>
<td>234.21</td>
<td>101</td>
<td>.89</td>
<td>.075</td>
<td>.92</td>
<td>.95</td>
</tr>
</tbody>
</table>
Table 5: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
<th>11.</th>
<th>12.</th>
<th>13.</th>
<th>14.</th>
<th>15.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perception of Customer Emotions</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>2. Understanding of Customer Emotions</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>3. Regulation of Customer Emotions</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>4. Empathy</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>5. Assurance</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>6. Negative Affectivity</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>7. Positive Affectivity</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>8. Rapport-Enjoyable Interaction</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>9. Rapport-Personal Connection</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>10. Positive Emotions after the Encounter</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>11. Negative Emotions after the Encounter</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>12. Affective Commitment to the Employee</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>13. Service Encounter Satisfaction</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>14. Loyalty Intentions toward the Company</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>15. Loyalty Intentions toward the Employee</td>
<td>3.53</td>
<td>1.54</td>
<td>0.86</td>
<td>3.78</td>
<td>1.76</td>
<td>0.57**</td>
<td>2.95</td>
<td>1.50</td>
<td>0.30**</td>
<td>0.38**</td>
<td>1.96</td>
<td>1.11</td>
<td>0.38**</td>
<td>0.47</td>
<td>0.94</td>
<td>0.86</td>
<td>0.83</td>
</tr>
</tbody>
</table>

N.B.: SD = Standard deviation
Square root of average variance extracted (AVE) is in bold on the diagonal.
The first three variables represent the construct of emotional competence. The constructs 4-9 are used to test for discriminant validity. The constructs 10-17 are used to test for predictive validity.

*** Correlation is significant at the .001 level.
** Correlation is significant at the .01 level.
* Correlation is significant at the .05 level.
Figure 1: Results of Structural Equation Modeling
Appendix 1: Description of Scales to Examine Predictive Validity

<table>
<thead>
<tr>
<th>Construct, List of Items and Goodness-of-Fit Measures</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive Emotions</strong> (adapted from van Dolen, de Ruyter and Lemmink 2004) <em>(Composite Reliability [CR] = .86)</em></td>
<td></td>
</tr>
<tr>
<td>To which extent did you feel these emotions just after the end of the service encounter?</td>
<td></td>
</tr>
<tr>
<td>Hopeful</td>
<td>.791</td>
</tr>
<tr>
<td>Happy</td>
<td>.941</td>
</tr>
<tr>
<td><strong>Negative Emotions</strong> (adapted from van Dolen, de Ruyter and Lemmink 2004) <em>(CR = .73)</em></td>
<td></td>
</tr>
<tr>
<td>To which extent did you feel these emotions just after the end of the service encounter?</td>
<td></td>
</tr>
<tr>
<td>Humiliated</td>
<td>.945</td>
</tr>
<tr>
<td>Guilty</td>
<td>.415</td>
</tr>
<tr>
<td>Scared</td>
<td>.391</td>
</tr>
<tr>
<td>Sad</td>
<td>.707</td>
</tr>
<tr>
<td><strong>Service Encounter Satisfaction</strong> (adapted from van Dolen, de Ruyter and Lemmink 2004) <em>(CR = .95)</em></td>
<td></td>
</tr>
<tr>
<td>This encounter was exactly what I needed</td>
<td>.931</td>
</tr>
<tr>
<td>I am satisfied with this encounter</td>
<td>.933</td>
</tr>
<tr>
<td>I have truly enjoyed this encounter</td>
<td>.905</td>
</tr>
<tr>
<td><strong>Affective Commitment toward the contact employee</strong> (adapted from Gruen, Summers and Acito 2000; Verhoef 2003) <em>(CR = .95)</em></td>
<td></td>
</tr>
<tr>
<td>I appreciate to be a customer of this employee</td>
<td>.939</td>
</tr>
<tr>
<td>I have a positive feeling toward this employee</td>
<td>.952</td>
</tr>
<tr>
<td>I feel a strong attachment to this employee</td>
<td>.916</td>
</tr>
<tr>
<td><strong>Loyalty Intentions to the Company</strong> (adapted from Zeithaml, Berry and Parasuraman 1996) <em>(CR = .95)</em></td>
<td></td>
</tr>
<tr>
<td>I say positive things about this company to other people</td>
<td>.900</td>
</tr>
<tr>
<td>I recommend this company to someone who seeks my advice</td>
<td>.937</td>
</tr>
<tr>
<td>I encourage friends and relatives to do business with this company</td>
<td>.932</td>
</tr>
<tr>
<td>I consider this company as my first choice to buy this type of services</td>
<td>.844</td>
</tr>
<tr>
<td>I have the intention to do more business with this company in the future</td>
<td>.863</td>
</tr>
<tr>
<td><strong>Loyalty Intentions to the Contact Employee</strong> (adapted from Patterson and Smith 2003; Zeithaml, Berry and Parasuraman 1996)) <em>(CR = .97)</em></td>
<td></td>
</tr>
<tr>
<td>I will contact the same contact employee</td>
<td>.915</td>
</tr>
<tr>
<td>I will continue doing “business” with this contact employee</td>
<td>.907</td>
</tr>
<tr>
<td>I would say positive things about this contact employee to friends and relatives</td>
<td>.941</td>
</tr>
<tr>
<td>I would recommend this contact employee to friends and relatives</td>
<td>.963</td>
</tr>
<tr>
<td>I would encourage friends and relatives to do business with this contact employee</td>
<td>.942</td>
</tr>
</tbody>
</table>
References


Drolet, Aimee L. and Donald G. Morrison (2001), "Do We Really Need Multiple-Item Measures in Service Research?," *Journal of Service Research*, 3 (3), 196-204.


Kruger, Justin and David Dunning (1999), "Unskilled and Unaware of It," *Journal of personality and social psychology*, 77 (6), 1121-34.


Rossen, Eric, John H. Kranzler and James Algina (2008), "Confirmatory Factor Analysis of the Mayer-Salovey-Caruso Emotional Intelligence Test V 2.0 (Msceit)," Personality and Individual Differences, 44 (5), 1258-69.

Salovey, Peter and John D. Mayer (1990), "Emotional Intelligence," Imagination, Cognition and Personality, 9 (3), 185-211.


