



Measuring the experience of hospitality: Scale development and validation

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ABSTRACT

This paper identifies what customers experience as hospitality and subsequently presents a novel and compact assessment scale for measuring customers' experience of hospitality at any kind of service organization. The Experience of Hospitality Scale (EH-Scale) takes a broader perspective compared to existing scales, which predominantly measure hospitable behavior of service employees and are specifically developed for organizations in the hospitality industry. A thorough approach containing two qualitative and two quantitative studies resulted in the thirteen-item EH-Scale. The scale measures three experiential factors of hospitality: the experience of *inviting* (open, inviting, freedom), the experience of *care* (servitude, empathy and acknowledgement), and the experience of *comfort* (feeling at ease, relaxed and comfortable).

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1. Introduction

Since the economy has increasingly moved from a service economy to an experience economy (Pine and Gilmore, 1999), the focus of service organizations is no longer on what they deliver but on how they deliver their services. The growing attention to hospitality as means to distinguish themselves from other organizations fits within this development. The attention paid to hospitality not only applies to the hospitality businesses, such as hotels, restaurants and leisure, but is also becoming a relevant topic in fields as diverse as healthcare and financial services. However, organizations need tools to help them improve the hospitality they offer to their customers.

Academic attention for hospitality has also been growing. In recent decades, the amount of literature and the number of disciplines in which hospitality has been studied has increased enormously. However, despite the substantial amount of published papers, the concept of hospitality remains ill-defined (Brotherton and Wood, 2008; Lashley et al., 2007; Lynch et al., 2011; Ottenbacher et al., 2009; Tasci and Semrad, 2016). As Ottenbacher et al. (2009) state, 'hospitality is a relatively new research area' and there is a 'lack of definitional consensus on the term hospitality' (p.263). However, improved insight in the concept is essential to

further explore, define, and apply hospitality (Brotherton, 1999; Lynch et al., 2011; Ottenbacher et al., 2009).

The sparse research that does explore the meaning of the concept during the service encounter mostly examines hospitality from the viewpoint of the host, focusing on the appearance and behavior of employees (Ariffin and Maghzi, 2012; Blain and Lashley, 2014; Derrida, 1999; King, 1995; Nailon, 1982; O'Sullivan, 2004; Pfeifer, 1983; Reynolds, 2010; Ritzer, 2007; Tasci and Semrad, 2016; Telfer, 2000). Although a meaningful approach, it is limiting in two ways. Firstly, a necessary first step to improve an organization's hospitality is to understand what *customers* experience as hospitable during a service encounter. As the business and managerial sector has thus far dominated the literature on hospitality (Lynch et al., 2011), the need for immediately applicable knowledge on hospitality may be the reason that this first step of empirical investigation on what hospitality means to customers has so far been neglected. Secondly, the literature on customer experience shows that a service experience is not only based on the customer's interaction with service staff, but also on the environment in which the service encounter takes place (e.g. Baker et al., 2002; Berry et al., 2006; Bitner, 1992). In defining the experience of hospitality, the focus should therefore not be limited to the experience of employee behavior, but also incorporate the experience of the service environment.

Although there are validated instruments to measure customers' evaluation of service encounters for constructs such as *service quality* (scales based on SERVQUAL developed by Parasuraman et al., 1988), *customer satisfaction* (such as the ACSIS-scale developed by Angelova and Zekiri (2011) and scales that

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Table 1
List of experience-related words associated with the experience of hospitality.

Attention ^{c,d}	Friendly ^{c,d,e,g,m,n}	Safety ^{f,o}
Care ^{a,d,o}	Generous ^{c,d,e,f,h,i,n}	Security ^{e,f,g,k,m}
Comfort ^{a,b,d,e,g,k,m}	Helpful ^{a,b,n}	Understanding needs ^{a,h,j,m,p}
Courteous ^{e,m,n}	Open ^{e,n}	Warmth ^{a,c,d,e,m}
Desire to please ^{a,b,i,o}	Pleasure/happy ^{b,c,d,h,n}	Welcoming ^{a,c,d,e,m,n}
Entertainment ^{e,f}	Polite ^{c,d,n}	
Feel important/special ^{a,b,m}	Respectful ^{a,n}	

Note. Only words that are mentioned in more than one article are included in the table.

^aAriffin and Maghzi (2012).

^bBlain and Lashley (2014).

^cBrotherton (2005).

^dBrotherton and Wood (2008).

^eBurgess (1982).

^fHemmington (2007).

^gHepple et al. (1990).

^hKing (1995).

ⁱLashley (2000).

^jMatzko (1996).

^kNailon (1982).

^lO'Gorman (2000).

^mSim et al. (2006).

ⁿTasci and Semrad (2016).

^oTelfer (2000).

^pTideman (1983).

elaborated on Oliver (1997)) and *customer experience* (such as Brunner-Sperdin et al., 2012; Klaus and Maklan, 2012; Knutson and Beck, 2004), there is still no well-grounded instrument to measure the *experience of hospitality* in service environments.

2. Aims and research questions

The aim of this paper is twofold. The first aim is to clarify the concept of the experience of hospitality. What do people experience when they experience hospitality? What dimensions of hospitality can be distinguished? Subsequently, the second and main aim is to develop a scale to measure the experience of hospitality in service environments. We wish to develop a straightforward scale that is applicable in any service environment and incorporates not only hospitable behavior of service employees, but also includes the experience of hospitality offered by the organization as a whole, also incorporating the physical service environment. For the scale development a rigorous multi-method approach is taken: a combination of an extensive literature study, two exploratory qualitative studies and two confirmatory quantitative studies.

3. Literature review

Tapping into the sparse studies on the meaning of hospitality, it firstly appears that the terminology authors use to describe (aspects of) hospitality is ambiguous. Authors such as Tideman (1983) and Pfeifer (1983) define hospitality as the basic provision of products such as food, drink, shelter, and hygiene amenities for travelers who are away from home. However, Smith (1994) and Ariffin and Maghzi (2012) use hospitality to refer to the attitudes and behavior of service employees. Others also refer to the attitudes and behavior of employees, but label this as 'hospitableness' (Blain and Lashley, 2014; Tasci and Semrad, 2016; Telfer, 2000).

Hospitality and hospitableness are both used to describe what a host offers to his or her guests. However, instead of focusing on this provision of hospitality, the present research focuses on the reception of hospitality by recipients. Therefore, the term 'experience of hospitality' will be used, referring to the experience of staff behavior as well as the experience of the physical service environment including its facilities. Note that the 'experience of hospitality' is different from 'hospitality experience', which refers to an experi-

ence in an organization in the hospitality industry, such as a bar, restaurant or hotel (for example Hemmington, 2007; Lugosi, 2014).

An initial systematic literature search on the meaning of hospitality to customers yielded a few articles that examined the concept, mostly in the context of hotels (Ariffin and Maghzi, 2012; Blain and Lashley, 2014; Brotherton, 2005; Brotherton and Wood, 2008; Hepple et al., 1990; Sim et al., 2006; Tasci and Semrad, 2016). Hepple et al. (1990) performed a study on hospitality in a hospital environment. Patients were asked to rank hospitality factors in the order in which they considered them to be important. The authors found that hospital patients rated friendly staff and smooth procedures as most relevant for experiencing hospitality. Brotherton (2005) and Brotherton and Wood (2008) explored hotel guest perceptions of the physical as well as the service aspects of hospitality. Words guests mostly associated with hospitable service delivery behavior were: welcoming, friendly, polite, pleasant and warm. Associations with the physical aspects of hospitality were: comfort and cleanliness. Sim et al. (2006) investigated hospitality as the 'behavior factor' of satisfaction in hotels. In their research they refer to employees greeting people with courtesy, being friendly, polite, cheerful, meeting customer needs, being patient, taking time, communicating well, letting customers feel important, secure and 'treated like a king or queen', and creating a mood of comfort and relaxation.

Ariffin and Maghzi (2012), Blain and Lashley (2014), and Tasci and Semrad (2016) investigated the meaning of hospitableness by developing scales for measuring hospitable attitudes and behavior in the hospitality sector. Ariffin and Maghzi (2012) developed a questionnaire to measure hospitableness in hotels. They distinguish five dimensions: personalization, warm welcoming, special relationship, straight from the heart and comfort. The scale developed by Blain and Lashley (2014) contains three dimensions: the desire to put customers before yourself, to make them happy, and to make them feel special. Recently, Tasci and Semrad (2016) asked people to rate the importance of several characteristics for employees of destinations, hotels and restaurants for being hospitable. This resulted in a three-factor scale of hospitableness: heart-warming (welcoming, courteous, respectful and kind), heart-assuring (trustworthy, honest, reliable), and heart-soothing (generous, sociable and open).

Beyond the limited empirical research on this topic, at a more descriptive level the literature on hospitality also provides indica-

Table 2
Overview of the phases in the development of the EH-Scale.

Phase	Stage	Methodology	Sample	Data collection	Type of Analysis	Results
1: Exploratory	Search for definitions of experience of hospitality	Qualitative study, Literature review	–	–	Content analysis	Initial list of words related to the experience of hospitality
	Study 1: search for dimensions and items	Qualitative study, Delphi technique	8 service experts from hotels, restaurants, healthcare, business (2), amusement, travel, and design	Face-to-face (rounds 1 & 3) and telephone (round 2)	Content analysis	7 dimensions of hospitality: welcome, at ease, empathy, servitude, acknowledgement, autonomy & surprise
	Study 2: search for dimensions and items	Qualitative study, Critical Incidents & storytelling	89 customers of 6 organizations: hotel, hospital, funeral company, railway company, financial institution, concert hall	Face-to-face	Content analysis	9 dimensions of hospitality: welcome, at ease, servitude, empathy, acknowledgement, autonomy, surprise, entertainment, efficiency
2: Confirmative	Pilot test EH-Scale	Quantitative study, Survey	15 hospitality experts, 18 facility staff (cleaning and restaurant)	Face-to-face and e-mail		Improvement of questions of the concept EH-Scale
	Field study 1: Item screening & factor structure	Quantitative study, Survey	848 service customers of 3 organizations: catering, hospital, business	Face-to-face, online version questionnaire	PCA, EFA	Validation of dimensions, and condensed version of the EH-Scale
	Field study 2: Validation factor structure	Quantitative study, Survey	255 service customers of 4 organizations: catering, hotel, local government, concert hall	Face-to-face, paper version questionnaire	CFA & regression analysis	Validation of dimensions, and condensed version of the EH-Scale

tions on what customers will probably experience as hospitality (Burgess, 1982; Hemmington, 2007; King, 1995; Lashley, 2000; Matzko, 1996; Nailon, 1982; O'Gorman, 2007; Sim et al., 2006; Telfer, 2000; Tideman, 1983). Table 1 provides a list of words that authors use to refer to the meaning of hospitality and hospitableness to customers. Burgess (1982, p. 50) describes hospitality as 'the social relationship fostered by the warm, friendly, welcoming, courteous, open, generous behavior of the host, creating the hospitable social environment'. Others use similar words to describe hospitality (e.g. Brotherton, 2005; Brotherton and Wood, 2008; Sim et al., 2006; Tasci and Semrad, 2016). Authors also refer to feeling comfortable, safe or secure (Burgess, 1982; Hepple et al., 1990; Nailon, 1982; Sim et al., 2006). Furthermore, some authors use 'understanding of the guest' or 'desire to please guests' to describe hospitality (e.g. Ariffin and Maghzi, 2012; Lashley, 2000; Blain and Lashley, 2014; Matzko, 1996; Telfer, 2000). For example, Telfer (2000) describes hospitable behavior as 'genuine needs to please and care for the guests' and Lashley (2000) argues that hospitality involves 'the desire to please'. Also, entertainment is mentioned as characteristic of hospitality by using words such as entertainment, pleasure and happiness (e.g. King, 1995; Burgess, 1989; Hemmington, 2007).

The development of a generic instrument to measure the experience of hospitality in service environments starts by examining whether these experience-related words of

hospitality indeed reflect how service providers view hospitality but also how customers experience it.

4. Phase 1: exploration of the concept, content validity and item generation

The development of the Experience of Hospitality Scale (EH-Scale) consisted of an explorative and a confirmative phase, each consisting of several studies.

An overview of the process is shown in Table 2. The objective of phase one in the development of the EH-Scale was to define the concept of the experience of hospitality and to generate items.

This phase consisted of two qualitative studies: one exploring the meaning of experience of hospitality from the viewpoint of professionals offering hospitality, and a second study exploring it from a customer's perspective. Phase two includes the purification of the scale and the validation of the factor structure.

4.1. Study 1: delphi study with service experts

In this qualitative study, service experts on customer experience shared their expertise and opinions on the experience of hospitality.

4.1.1. Method

4.1.1.1. Participants. Eight internationally oriented experts (seven Dutch, one American; two women; aged 30–60) from a wide range of service organizations were recruited: business, healthcare, hotels, restaurants, travel, amusement and design. The organizations furthermore varied in whether their services were characterized as hedonic or utilitarian (Wakefield and Blodgett, 1996). Amusement is typically hedonic as it fulfills pleasure needs; business and healthcare can be characterized as utilitarian, because people's visits are obligatory. Hotels, restaurants, travel and design can be either hedonic or utilitarian, depending on people's mindset (business or leisure).

4.1.1.2. Research design. A Delphi method was used: an interactive method in which experts "discuss" a complex problem (Linstone and Turoff, 1975; Okoli and Pawlowski, 2004; Rowe and Wright, 2001; Wunderlich et al., 2013). Through a structured iterative communication process individual experts answered questions in three rounds with the aim of seeking consensus.

4.1.1.3. Procedure. In the first round, respondents were interviewed face-to-face for about one hour. Participants were invited to describe hospitable experiences and to share their thoughts on the meaning of their experience of hospitality. In the second round, a telephone interview, the experts provided feedback on the results

of the 1st round. During the third round, they discussed in a panel session a number of final topics to reach group consensus.

4.1.1.4. Analysis. The transcriptions of the interviews were analyzed with help of the F4Analyse software package for qualitative data analysis using inductive thematic analysis (Braun and Clarke, 2006). Firstly, phrases that referred to characteristics of hospitality were labeled (open coding). Secondly, these labels were grouped into a number of overarching dimensions (axial coding). To improve the inter-rater reliability, a second assessor independently coded two of the interviews, which resulted in minor changes to the original coding scheme.

4.1.2. Results

Through an iterative process of analyzing the interviews (round 1 of the Delphi) and modifications based on the feedback of the experts (rounds 2 and 3 of the Delphi), the analysis resulted in the subdivision of the experience of hospitality into seven experiential dimensions.

The dimension *welcome* concerns the feeling of welcome, a warm reception and an approachable atmosphere. Feeling *at ease* appears to be another experiential dimension of hospitality. Feeling safe and relaxed, the reduction of stress, feeling at home, at ease and feeling confident are part of this dimension. *Empathy* shows up as a third experiential dimension and refers to the experience that the organization understands what guests want and need. A fourth experiential dimension, labeled *servitude*, accounts for the feeling that the organization and its employees genuinely want to serve you. A fifth experiential dimension, *acknowledgement*, refers to the experience of personal contact, acknowledgement, and the feeling that customers are important and are taken seriously. The sixth experiential dimension of hospitality is *autonomy*: the level of control over what happens seems to be part of the experience of hospitality. *Surprise* is the final experiential dimension of hospitality. According to the experts, an experience can be characterized as hospitable when there is at least one element that really ‘moves’ you or exceeds your expectations.

The experts furthermore shared the opinion that in all types of service environments all experiential dimensions play a role, but the relative importance of the dimensions was expected to depend on both the type of service organization and the type of customers.

4.2. Study 2: customers’ view of hospitality

Aside from knowledge from service experts dealing with the provision of hospitality (study 1), hospitality was investigated from the point of view of the people who receive it. Customers of six types of service environments shared their experiences of and opinions on hospitality.

4.2.1. Method

4.2.1.1. Participants. Eighty-nine Dutch customers of a hotel (n = 18), a hospital (n = 14), a funeral company (n = 20), a railway company (n = 12), a bank (n = 12), and a concert hall (n = 13) participated in the study. In line with study 1, the organizations belonged to various service sectors and varied in utilitarian versus hedonic characteristics (Wakefield and Blodgett, 1996).

4.2.1.2. Research design. The respondents were interviewed face-to-face by using two different projective techniques, aiming to uncover unconscious feelings, which many customers find difficult to articulate (Donoghue, 2000): Critical Incident Technique and the technique of storytelling. Critical Incident Technique, originally developed by Flanagan (1954), was used to gather examples of both hospitable and inhospitable experiences (Gremler, 2004),

whereas storytelling (e.g. Koll et al., 2010) was used to identify ideal scenarios of hospitality.

4.2.1.3. Procedure. Participants were first asked to describe hospitable and/or inhospitable experiences within the context of the particular service provider (Critical Incidents). Then they were asked to create an imaginary ideal scenario in that particular context.

4.2.1.4. Analysis. Thematic data analysis was carried out to uncover the experiential dimensions of hospitality. For the analysis, the transcribed data of the Critical Incidents and the ideal scenario were taken together. The coding scheme consisting of the seven dimensions from study 1 was the starting point for the analysis.

4.2.2. Results

In contrast to the experts participating in study 1, who mentioned *surprise* as a characteristic of a hospitable experience, customers in study 2 hardly mentioned this element in relation to hospitality. Sometimes customers mentioned positive experiences where something exceeded their expectations, but the link with hospitality was less clear.

The dimensions *welcome*, *at ease*, *empathy*, *acknowledgement*, *servitude* and *autonomy* resulting from study 1 were also relevant in study 2.

Furthermore, study 2 revealed two additional experiential dimensions of hospitality. Firstly, *efficiency* in service delivery was associated with hospitality, namely smooth procedures and the ease of arranging what customers want. Although customers of all six service organizations mentioned aspects concerning efficiency, particularly customers of the hotel, the railway company and the bank referred to this dimension. This dimension is in line with other research on hospitality that mentions smooth procedures as an essential part of hospitality (Hepple et al., 1990).

Secondly, *Entertainment*, though described in the literature as one of the elements of hospitality (Telfer, 2000; King, 1995; Burgess, 1982 and Hemmington, 2007) but not mentioned in study 1, did appear in study 2, albeit with a somewhat different interpretation. Participants talked about entertainment not in the sense of having fun and pleasure. Instead, they referred to diversion or pastime, such as providing magazines to read or toys for children, and offering something to drink.

As study 1 and study 2 took place during the same time period, the results of study 2 could be inserted in the Delphi study. In rounds 2 and 3 the experts were asked to reflect specifically on the elements they did not mention in round one. They reached consensus that surprise, efficiency and entertainment may probably not be separate dimensions of a hospitality experience, but instead are antecedents of the perception of one or more of the six other experiential dimensions of hospitality (*welcome*, *at ease*, *empathy*, *servitude*, *acknowledgement*, and *autonomy*). This conclusion is in line with Berry et al. (2006), who stated that efficient procedures and entertainment are in fact functional clues to the service environment, not experiential dimensions that occur inside people’s minds. Surprise may be a result of exceeding expectations; instead of being a separate dimension it can result in a ‘wow experience’ in one of the six experiential dimensions.

In line with the expectations from study 1, study 2 showed that all experiential dimensions were relevant in every service context, but their relative prevalence differed. The *welcome* and *servitude* dimensions were substantially referred to for all of the six service organizations. However, for the other dimensions the percentages of phrases that apply to them vary from organization to organization. For instance, at the concert hall the *welcome* dimension was the most referred to phrase (25% of the phrases), for the railway company the *at ease* dimension was the most mentioned (25%

Table 3
Experiential dimensions of hospitality (with corresponding attributes) found in two qualitative studies.

Welcome	At ease	Acknowledgement
Open	Safe	Contact
Inviting	Secure	Feeling important
Welcome	At home	Appreciation
Warm	At ease	Interest
Approachable	Comfortable	Respect
Courteous	Relaxed	Taken seriously
Friendly	Knowing what's coming	Taking time
Polite		
Empathy	Servitude	Autonomy
Understanding (general)	Helpful	Being in control
Understanding needs	Available	Having influence
Involvement	Relief of tasks & worries	Having choice
Support	Effort to take care	Independence
Same wavelength	Sincere	Freedom
	Treated like a king/queen	
Entertainment	Efficiency	Surprise
Distraction	Efficient	Unexpected (positively)
Pleasure	Easy	Exceeding expectations
Entertainment	Fluent	Surprising

Note: The attributes have been translated from Dutch.

of the phrases), in the hotel the *acknowledgement* dimension was most prevalent, and customers of the funeral company most often gave examples of hospitable experiences referring to the *autonomy* dimension.

4.3. Conclusions

Study 1 and study 2 resulted in a better understanding of the concept of experiencing hospitality. In a service environment, experiencing hospitality is suggested to take place through a mixture of the nine experiential dimensions of hospitality: *welcome*, *at ease*, *empathy*, *servitude*, *acknowledgement*, *autonomy*, *surprise*, *efficiency* and *entertainment*, each with corresponding attributes.

This is to a great extent in line with the existing literature. The *welcome* dimension as part of experiencing hospitality is in accordance with description of Brotherton (2005), Hemmington (2007), Ariffin and Maghzi (2012), Blain and Lashley (2014) and Tasci and Semrad (2016). The *servitude* dimension resembles the hearth-soothing factor of hospitableness of Tasci and Semrad (2016) and description of others (Brotherton, 2005; Hemmington, 2007; Blain & Lashley). The *at ease* dimension is identified by Hemmington (2007) and looks like the heart-assuring factor of hospitableness (Tasci and Semrad, 2016). The *acknowledgement* dimension is in line with Ariffin and Maghzi (2012), who describe personalization and a special relationship as hospitable. Finally, Hemmington (2007) describes 'lots of little surprises' as parts of hospitality, which matches the *surprise* dimension in the Delphi study. *Empathy* is in line with 'understanding the guest' as described by Matzko (1996), King (1995) and Tideman (1983). However, the *autonomy* dimension suggested in the present study seems to be new.

The prevalence of the various dimensions of the experience of hospitality is expected to vary depending on the type of service context as well as the type of customer. For surprise, entertainment and efficiency, it remains unclear whether those are separate experiential dimensions or antecedents of the other dimensions.

Table 3 summarizes the results of both qualitative studies by presenting the nine experiential dimensions of the experience of hospitality together with their corresponding attributes. The attributes served as input for a first (extensive) version of the EH-Scale, which was validated during phase 2.

5. Phase 2: scale purification and validation

For the purification and validation of the Experience of Hospitality Scale (EH-Scale), two quantitative studies were performed. The first stage (field study 1) focused on: (1) screening the items to reduce the initial pool to a more manageable size using Principal Component Analysis (PCA); and (2) exploring the underlying structure of the data using Exploratory Factor Analysis (EFA). The second stage (field study 2) involved validation of the factor structure of the condensed scale by using Confirmatory Factor Analysis (CFA) on a new dataset.

5.1. First stage: item screening and factor structure (field study 1)

Firstly, a comprehensive version of the EH-Scale was designed based on the attributes of the dimensions of phase one as shown in Table 3. For each attribute a statement was created. Subsequently, the scale was pretested among 15 hospitality experts and 18 facility staff (cleaning and restaurant) to examine the readability, comprehensibility, wording, ambiguity, and order effects of the questionnaire. Based on the feedback from the respondents, the wording of several questions was improved, as well as the ordering of the questions. After the pre-test, the instrument consisted of 47 statements on the attributes presented in Table 3, together with the 3 statements of the ACSI American Customer Satisfaction Model (Angelova and Zekiri, 2011), 2 items on behavioral intention, and demographic variables, such as age, gender, educational background and cultural background.

5.1.1. Data collection

Data for the initial refinement of the 52-item questionnaire were gathered from three samples resulting in a combined sample of 848 visitors to three organizations: a catering company (n=433), a hospital (n=353) and a business fair (n=62). The organizations differed in the type of service offered (mass versus individual) and type of visit (hedonic versus utilitarian, described by Wakefield and Blodgett, 2004).

The questionnaire was administered on the spot, during the first months of 2016. Visitors were approached at the end of their visit and were asked to participate in a study on customer experience by filling out the questionnaire on a tablet. Participants were asked to indicate the extent to which they agreed with the 52 statements on a continuous Likert scale (from totally disagree to totally agree) and to answer questions on demographics (age, gender, educational background).

5.1.2. Scale purification

For the analysis, the procedure described by Matsunaga (2010) was followed. The combined sample from the three organizations was randomly split in half resulting in two separate datasets: one to conduct the PCA and one to conduct the EFA. For the initial item reduction the PCA was conducted on dataset 1 (n=417). As the factors were expected to be correlated, the Promax oblique rotation method was used. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was suitable for PCA (KMO=0.97). Statistical criteria for item retention were a primary factor loading above 0.6 and a second highest factor loading below 0.3 (Henson and Roberts, 2006; Matsunaga, 2010; Park et al., 2002). Items with lower factor loadings were deleted one by one, resulting in a remaining set of 26 items spread over three factors, together explaining 68.7% of the variance.

Secondly, to explore the underlying factor structure (Matsunaga, 2010), this 26-item scale was submitted to an EFA (Principal Axis Factoring and Promax rotation) on dataset 2 (n=434). Based on the Kaiser Guttman criterion (eigenvalues > 1.0), scree test and Parallel analysis (Hayton et al., 2004) both a

Table 4
Factor Analysis (EFA, promax rotation, n = 434) and communalities (h²).

Item	Dimension study 1&2	h ²	Factor loadings		
			Inviting	Care	Comfort
Experiencing openness	Welcome	0.78	.93	−0.02	−0.04
Feeling invited	Welcome	0.57	.68	0.05	0.05
Experiencing freedom	Autonomy	0.58	.62	0.04	0.16
Experiencing involvement	Empathy	0.78	−0.07	.92	0.01
Experiencing support	Empathy	0.66	0.07	.83	−0.09
Treated as a king/queen	Servitude	0.71	0.08	.84	−0.07
Experiencing relief	Servitude	0.55	−0.00	.75	−0.01
Experiencing effort	Servitude	0.74	0.09	.80	0.00
Experiencing interest	Acknowledgement	0.73	−0.07	.79	0.15
Feeling important	Acknowledgement	0.73	−0.04	.73	0.19
Feeling comfortable	At ease	0.80	−0.01	0.01	.90
Feeling at ease	At ease	0.73	0.00	0.06	.81
Feeling relaxed	At ease	0.69	0.06	0.04	.76
Feeling independent	Autonomy	0.58	0.01	−0.01	.76
Having choice	Autonomy	0.56	0.04	−0.03	.76
Eigenvalue			1.07	8.62	1.50
% of variance			7.10	57.50	9.97
Cumulative% of variance			74.57	57.50	67.47
Internal Consistency (Cronbach's α)			$\alpha = 0.84$	$\alpha = 0.94$	$\alpha = 0.91$

Notes: Items with high factor loadings are bold. Items have been translated from Dutch. For the complete (translated) survey questions see Appendix 1.

Table 5
Results Confirmatory Factor Analysis (CFA).

Factor	Factor loading ^a	Composite reliability (CR)	Average variance extracted (AVE)	Maximum shared variance (MSV)	Average shared variance (ASV)
Inviting		0.81	0.60	0.38	0.34
- Feeling invited	0.83				
- Experiencing openness	0.88				
- Experiencing freedom	0.57				
Care		0.93	0.64	0.35	0.33
- Experiencing support	0.74				
- Experiencing involvement	0.83				
- Treated as a king/queen	0.81				
- Experiencing effort	0.83				
- Experiencing relief	0.79				
- Experiencing interest	0.85				
- Feeling important	0.75				
Comfort		0.89	0.75	0.38	0.36
- Feeling at ease	0.89				
- Feeling comfortable	0.92				
- Feeling relaxed	0.77				

^a All factor loadings are significant ($p < 0.001$).

two-factor and a three-factor solution were explored. Based on the interpretability of the factors and theoretical expectations, the three-factor solution seemed most suitable. Based on the 0.6/.3 rule for item retention, another eleven items were deleted from the scale. The results are presented in Table 4. The three factors, labeled as *inviting*, *care*, and *comfort*, together explained 74.6% of the variance. Communalities, defined as the proportion of a variable's variance that is explained by the three factors combined, are all above 0.3. Furthermore, Cronbach's alphas exceed the minimum of 0.7, as recommended by Nunnally and Bernstein (1994) and Kline (1999), suggesting that the scales are reliable.

Notes: Items with high factor loadings are bold. Items have been translated from Dutch. For the complete (translated) survey questions see Appendix A.

As can be seen in Table 4, the experiential dimensions that resulted from study 1 and study 2 group together to form three experiential factors of the experience of hospitality. Variables of the *welcome* dimension and one variable of the *autonomy* dimension make up the *inviting* experiential factor. Items from the *empathy*, *servitude* and *acknowledgement* dimensions group together into the *care* factor, and variables from the *at ease* dimension and some vari-

ables of the *autonomy* dimension make up the *comfort* factor. Items of the *efficiency*, *entertainment* and *surprise* dimensions dropped out during the factor analysis.

5.2. Second stage: confirmation of factor structure (field study 2)

For the validation of the three-factor model that resulted from the PCA and EFA, a CFA was conducted on a totally new dataset using the software package IBM SPSS AMOS 23. 255 Visitors of six organizations participated in field study 2: a restaurant at a large international home furniture chain (n = 42), a concert hall (n = 61), a town hall of a medium large city (n = 83) two hotels (n = 46) and a Dutch homeware retail chain (n = 12). The 15-item EH-Scale was administered on the spot. Visitors were approached at the end of their visit and were asked to participate in a study on customer experience by filling in a paper version of the EH-Scale.

For the evaluation of the model, a multi-criteria strategy was followed (Hu and Bentler, 1999). However, the CFA in first instance did not meet all criteria. To improve the fit of the model, two items with low loadings were removed one by one (the items of 'feeling independent' and 'having choice') resulting in a model that resulted in

Table 6
Average variance extracted (AVE) and correlation matrix.

	Inviting	Care	Comfort
Inviting	0.60 ^a		
Care	0.55	0.64 ^a	
Comfort	0.61	0.59	0.75 ^a

^a Average variance extracted. Numbers below the AVE line are the correlations between the constructs.

adequate model fit. Loading coefficients of the 13 items ranged from 0.57 to 0.92. While the chi-square fit index was statistically significant ($\chi^2 = 142.56$; $df = 62$, $p < 0.01$), the values of Goodness-of-Fit index (GFI), Adjusted Goodness-of-Fit index (AGFI), Comparative Fit Index (CFI) and Root Mean Square Residual (RMSEA) were 0.92, 0.89, 0.96 and 0.07 respectively. Based on Matsunaga (2010) and Marsh et al. (2004) the criteria of $GFI > 0.90$, $AGFI > 0.85$, $CFI > 0.90$ and $RMSEA < 0.08$ were met, indicating an adequate fit of the model. Table 5 shows the results of the CFA.

Internal consistency for the three factors was examined using Cronbach’s alpha: $\alpha = 0.78$ for the *inviting* factor, $\alpha = 0.92$ for the *care* factor, and $\alpha = 0.85$ for the *comfort* factor. All alphas exceed the minimum of 0.7, as recommended by Nunally and Bernstein (1994), suggesting reliable scales.

Since several qualitative and quantitative steps were followed to acquire a thorough and extensive instrument, content validity is assumed. As can be seen in Tables 5 and 6, convergent validity of the measurement model was evidenced by significant loading coefficients of 0.57–.92 (p ’s < 0.001) (Kline, 2005), and composite reliability values all greater than the recommended 0.7 (Nunally and Bernstein, 1994). Furthermore, the average variance extracted values (AVE, Fornell and Larcker, 1981) were for all the three factors above the cut-off value of 0.50 (Bagozzi and Yi, 1988).

Evidence for discriminant validity was provided by two tests: (1) factor correlations (displayed in Table 6) are lower than the threshold of 0.85 (Kline, 2005), indicating discriminant validity; and (2) the maximum shared variance (MSV), average shared variance (ASV), and average variance extracted (AVE) for each factor (see Table 5) suggest discriminant validity because $MSV < AVE$ and $ASV < AVE$ (Gaskin, 2012; Hair et al., 2010; Fornell and Larcker, 1981).

Finally, to examine criterion-related validity, standard multiple regression analyses were carried out on the whole database ($n = 1093$), indicating the explanatory power of the three factors on the overall experience of hospitality, overall satisfaction and behavioral intention. The overall experience of hospitality was measured by three items (Cronbach’s $\alpha = 0.88$), overall satisfaction was measured by the three-item ACSI scale, (Cronbach’s $\alpha = 0.84$) and behavioral intention was measured by the revisit intention and recommendation to others (Cronbach’s $\alpha = 0.88$). For the exact items see Appendix A. The results of the regression analysis are shown in Table 7.

The analysis revealed that the three factors of the EH-Scale had a statistically significant effect on the overall experience of hospitality, overall satisfaction and behavioral intention ($p < 0.001$). The three factors together explained 64% of the variance of the over-

Table 7
Results of regression analysis of the EH-Scale on the overall experience of hospitality, overall satisfaction, and behavioral intention.

Factors	Experience of Hospitality			Overall satisfaction (ACSI)			Experience of Hospitality		
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta
Inviting	0.56	0.03	0.53	0.34	0.05	0.29	0.34	0.05	0.29
Care	0.19	0.02	0.23	0.18	0.04	0.16	0.17	0.04	0.16
Comfort	0.14	0.03	0.14	0.21	0.04	0.43	0.51	0.04	0.43
Adjusted R ²	0.64			0.46					

^aFor all three outcome variables, the factors had a significant effect ($p < 0.001$).

Table 8
Results regression analysis catering and hospital.

Factors	Catering company			Hospital		
	Experience of Hospitality			Experience of Hospitality		
	B	Std. Error	Beta	B	Std. Error	Beta
Inviting	0.59	0.04	0.54	0.39	0.05	0.42
Care	0.13	0.03	0.16	0.23	0.05	0.27
Comfort	0.18	0.05	0.18	0.13	0.04	0.17
Adjusted R ²	0.56					

^aFor all three outcome variables, the factors had a significant effect ($p < 0.001$).

all experience of hospitality, indicating a satisfactory model fit. The *inviting* factor had the largest contribution, followed by *care* and *comfort*. *Inviting* therefore seems the most predictive factor for a positive experience of hospitality. Results further provided evidence that although the other outcome measures of satisfaction and behavioral intention are related to the experience of hospitality, they seem to be separate constructs. The three factors of the experience of hospitality predicted 46% and 58% of the variance of overall satisfaction and behavioral intention respectively, indicating a less adequate model fit. Moreover, the relative contributions of the three factors differ: for satisfaction the contributions of the three factors are about equal, and for behavioral intentions the *comfort* factor contributed most.

Since the experience of hospitality was measured in several service contexts, a regression analysis was also performed separately on the data of the two service organizations that had the largest datasets: the catering company ($n = 433$) and the hospital ($n = 353$). Table 8 shows that the three factors of the experience of hospitality in both service environments significantly predict the overall experience of hospitality. Although in both organizations the *inviting* factor contributes most, at the catering company the contributions of *care* and *comfort* are about equal, while in the hospital the *care* factor seems the second most predictive factor followed by *comfort*. This supports the hypothesis that resulted from study 1 and study 2, namely that the importance of the various factors of the experience of hospitality may vary depending on the service context. In hospitals, the experience of *care* is more important for the experience of hospitality than in catering.

6. Conclusion

The present research contributes to the gap in the knowledge on the concept of hospitality from the customer’s perspective. The construct of the experience of hospitality is conceptualized and operationalized, resulting in a compact scale that measures the experience of hospitality in service environments.

The exploratory phase – including a literature review, expert opinions, and the customer’s experiences of hospitality—resulted in a conceptualization of the experience of hospitality by distinguishing nine experiential dimensions: *welcome*, *at ease*, *empathy*, *servitude*, *acknowledgement*, *autonomy*, *surprise*, *efficiency* and *entertainment*. As was hypothesized after the exploratory phase, *surprise*, *efficiency* and *entertainment* were not expected to be expe-

ritional dimensions, but rather antecedents of the perception of one or more of the six other experiential dimensions of hospitality. The results of the confirmative phase support this idea, as the items measuring *surprise*, *efficiency* and *entertainment* did not survive the factor analysis, as they neither loaded onto the three factors, nor appeared as a separate factor. The explorative phase resulted in 47 attributes as input for the construction of the EH-Scale.

During the confirmative phase, analysis of the data of the two field studies reduced the items, resulting in a 13-item scale in which the remaining six experiential dimensions grouped together into three factors of the experience of hospitality: *inviting*, *care* and *comfort*. The *inviting* factor shows the largest predictive value for the overall experience of hospitality.

7. Discussion

7.1. Theoretical and practical implications

This paper has both theoretical and practical implications. By presenting the EH-Scale, the present article contributes to the theoretical understanding and measurement of hospitality in a service context from the customer's point of view. Going beyond the instruments developed by Ariffin and Maghzi (2012), Blain and Lashley (2014), and by Tasci and Semrad (2016) this instrument takes a broader perspective by focusing not only on the characteristics of the interaction with staff, but instead looks for aspects on a more abstract level of the organization in order to also include the perceived hospitableness of the environment, facilities and procedures faced during the service encounter.

The purpose of the present series of four studies was to develop an instrument to assess the experience of hospitality that is applicable in every service context. Although it was not the main objective of the present research, the results also suggest that all factors of the experience of hospitality are relevant in every type of service and for every type of customer, but the relative importance of the factors may vary.

The research provides the service industry insight in what people experience as hospitality. Furthermore, organizations now have access to the EH-Scale, a compact assessment tool applicable in any organization to measure how customers experience the hospitality that is offered. Insight in the experience of *inviting*, *care* and *comfort* will help organizations in creating the hospitality they want to provide to their guests.

7.2. Limitations and suggestions for future research

As Tasci and Semrad (2016) have already remarked, concepts such as hospitableness and the experience of hospitality are difficult to measure because of the intangibility of emotionally laden constructs, and because of the influence of cultural, personal and situational factors. However, despite such challenges researchers have attempted to capture this type of construct in instruments (Ariffin and Maghzi, 2012; Blain and Lashley, 2014; Tasci and Semrad, 2016). The EH-Scale aims to measure such an intangible construct too.

Limitations on the use of such scales are that, although people are instructed not to think too long and rely on their first impressions, people unavoidably have to think explicitly about aspects of the service delivery that they normally process unconsciously. Moreover, although the wording of the questions was carefully chosen and tested, the formulation of the questions may influence the outcome. Perhaps in the future methods will be developed to overcome these problems; for example, by using advanced neuroimaging techniques to recognize emotions. However, thus far such techniques are not advanced enough to be able to distinguish

between subtle differences such as the experience of *inviting*, *care* and *comfort*.

Furthermore, the present EH-Scale was developed based on what Dutch people experience as hospitable and cannot just be generalized to other nationalities. Further research needs to be done to investigate contextual, individual and cultural variations in the experience of hospitality.

In conclusion, the present research is an endeavor to capture and measure the phenomenon of the experience of hospitality in service environments. Yet the development of the scale is but the beginning of our understanding of the topic. Moreover, the opportunity to measure the experience of hospitality enables researchers to examine the role of particular service attributes, which will contribute to our knowledge of the role of both behavioral and environmental service attributes in customers' experience of hospitality. What service attributes influence customers' experiences of *inviting*, *care* and *comfort*? In what way do these attributes influence how customers of service environments experience those factors of a hospitable experience? Answers to these questions will eventually provide service industries not only with insight in the experience of their customers, but also with refined tools to help improve the hospitality they offer.

Appendix A. Items of the Experience of Hospitality Scale (after validation).

Inviting	1. Organization X feels inviting. 2. Organization X feels open.
Care	3. During my visit I experience freedom. 1. Organization X provides support to me. 2. Organization X is involved in me. 3. I feel as I am treated like a king/queen. 4. Organization X does its best to take care of me. 5. Organization X relieves me of tasks or worries. 6. Organization X is interested in me. 7. I feel important at organization X.
Comfort	1. I feel at ease at organization X. 2. I feel comfortable at organization X. 3. I feel relaxed at organization X.
Overall Experience of Hospitality	1. Overall, I experience organization X as hospitable. 2. The employees are hospitable to me. 3. All areas in the building that I visited seem hospitable to me.
Overall Satisfaction ^a	1. What is your overall satisfaction with organization X? 2. To what extent has the services of organization X met your expectations? 3. How close are the services provided by organization X compared to ideal services?
Behavioral intention ^b	1. If I could choose again, I would visit this organization again. 2. I would recommend organization X to others.

Note. The items are translated from Dutch. The original Dutch version of the EH-Scale is available on request.

^aitems from the ACSI-model (Angelova and Zekiri, 2011).

^bItems based on Pullman and Gross (2004).

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