EXPLORATORY STUDY ON MEASURING THE EFFECTS OF CULINARY CONCEPTS ON THE ATMOSPHERIC EXPERIENCE AND EMOTIONS OF ELDERLY PEOPLE

Ruth Pijls
Saxion Hospitality Business School
Deventer, the Netherlands
e-mail: r.pijls@saxion.nl
Brenda H. Groen
Saxion Hospitality Business School
Deventer, the Netherlands
e-mail: b.h.groen@saxion.nl
Janine Oldeman
Saxion Hospitality Business School
Deventer, the Netherlands
e-mail: j.oldeman@saxion.nl
J.P.Thomas Thijssen
Saxion Hospitality Business School
Deventer, the Netherlands
e-mail: j.p.t.thijssen@saxion.nl

ABSTRACT

Organisations are more and more aware of the need to really understand the motives, needs and desires of their guests in order to be hospitable. Offering food in a physical environment is a service which influences how people feel. The two (pilot) studies presented in this paper resulted in a first step towards a quantitative instrument for measuring people's experience: the effects of a culinary concept on the perceived experience of elderly living in a home for the elderly were measured. The instrument combines experience of service (staff, menu choice), environment (ambience and design), as well as emotions and products (food). Further research is needed to validate the instrument.

Key-words: Atmospheric Experience; Senses; Emotions; Culinary Concept; Elderly.
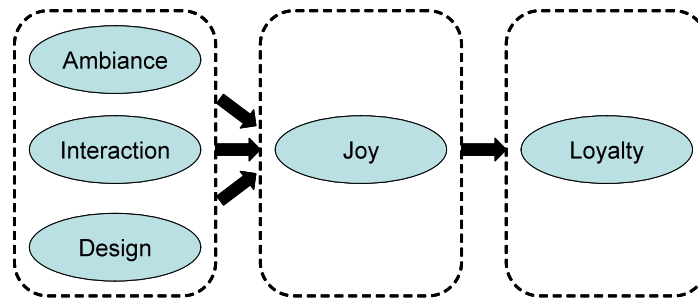
INTRODUCTION

When do people experience hospitality? Hospitality in services can be achieved if the host really understands the needs and desires of the guests and designs services in such a way that guests feel well during the whole process of interaction with the host. But which factors induce a feeling of wellness? A holistic view on personal health (WHO 2005) as well as experience ((Pine and Gilmore, 1999) distinguishes five levels: the physical, the cognitive, the emotional, the social, and the spiritual level.

Getting a quantitative grip on these dimensions is challenging. For example, Customer Satisfaction Surveys mainly focus on the cognitive level. However, in order to more fully understand people's experience of hospitality, it is necessary to integrate measures at the emotional level.

As 'experience' is a broad, overarching concept, it is necessary to narrow down the research area. Slåtten and Mehmetoglu (2009) developed the longitudinal CEO-model ('cause, effect and outcome') on atmospheric experience. They distinguished three components of atmospheric experience: ambience (tangible aspects like smell, temperature, sound, light, colour), design (intangible aspects of the style of the environment) and interaction with others. They state that a combination of these elements of the atmospheric experience together result in an emotional response, which in turn results in loyalty (Slåtten and Mehmetoglu, 2009). Slåtten et al. does not recognize the level of cognitive processing. Interesting is the view of Feldman Barrett, Mesquita, Ochsner & Gross (2007), who argue that cognitive activity and emotional experience, often seen as separate systems, are interwoven and settled in the brain as one system processing thoughts, memories, beliefs and emotions.

Ambience, interaction with others, and emotions are also components of the Guest Journey model (Thijssen, Peelen and Brink, 2006; Thijssen, Groen and Pijls, 2010, Figure 2) and visitors journey (Voss and Zomerdijk, 2007). These longitudinal conceptual perspectives/models take into account the different
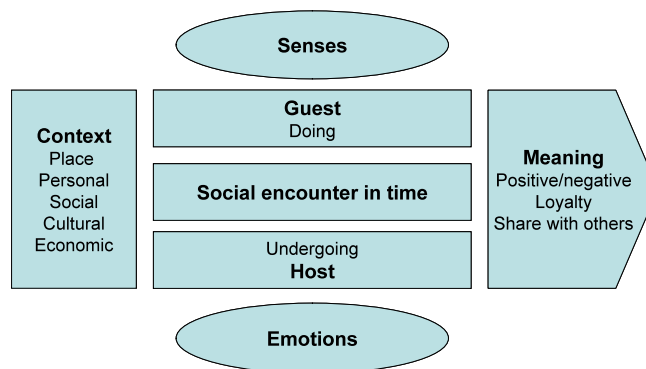
Figure 1: The CEO (Cause Effect, Outcome) model (Slåtten and Mehmetoglu; 2009).

contact moments between guest and host, as well as people's personal context. Thijssen et al. (2010) define experience as a continuous and interactive process of activity alternated with passive response.

Furthermore, this interactive process is embedded in a specific personal, social, cultural, and economic context. 'Experiences' by people are enabled through the use of a combination of their senses, resulting in the generation of emotions. These emotions in turn generate meaning in terms of value (in a positive or negative sense), loyalty, and preparedness to share the experience with others.

Figure 2: Guest Journey model

The present study focuses on the experience of having dinner in a home for the elderly. Besides the food itself, components of the atmospheric experience and people's own personal context results in an emotional and cognitive state, which together define how they experience services (Slåtten et al. 2009; McIntyre, 2008; Nijs & Peters, 2002). Research on the effects of having dinner is especially interesting and challenging, because this target group is confronted with problems of malnutrition and the decreased perception of taste and smell (Rolls, 1999).

AIM

The present study aims at the development of a quantitative instrument for measuring people's experience by measuring the effects of a culinary concept on the perceived experience of elderly living in a home for the elderly. A culinary concept includes the physical design of the kitchen and the restaurant, and optionally the screening and training of staff.

The instrument is based on the experience of food and atmospheric experience as defined by Slåtten et al. (2009), incorporating ambience (comparable to senses in the Guest Journey model) and design of the environment (comparable to context of place in the Guest Journey model), interaction with the staff (social context in the Guest Journey model), and emotions.

METHOD

Study one

The research described in this paper consists of two separate but related studies. In study one, a self-administered questionnaire was piloted**.** The questionnaire was based on the CEO-model and the Guest Journey Model and consisted of items on general characteristics (gender, age, and frequency and reason of visiting the dining room), the ambience (colours, light, smell, and sound), the design (atmosphere, furniture, and decoration), the food (menu options, selection of the menu, visual presentation, smell, taste and temperature) contact with staff, and emotions (general emotions in the home, as well as emotions associated with food with the dining-room). The pilot group consisted of 23 seniors living in a home for the elderly in Heerde in the Netherlands (mean age 88 years; range 78-96).

Study two

Based on the results of study one, study two focused on tailoring the survey to the target group by reducing the length and simplifying and limiting the use and amount of language by using visual answer categories in stead of words wherever possible. A questionnaire was used, consisting of questions referring to the same constructs as in study one. The questions were measured by a 5-point scale using smiley's. For the measurement of emotions the questions were different from the questions in study 1. In stead of asking how participants felt, the visual based LEM-emotion method was used (LEM-characters (2009), Desmet, Güiza Caicedo, and van Hout (2009). Participants selected one or more pictures out of eight pictures of faces representing eight different emotions, namely joy, fascination, disgust, dissatisfaction, satisfaction, desire, boredom, and sadness. However, these verbal labels were not communicated to the participants. Furthermore, the instrument had playful characteristics as it was designed as a board game with card-trays. The researchers presented questions and corresponding answering alternatives on a visual computer screen. Participants responded by selecting a card representing their answer and putting it in the appropriate box of their card-tray. To gather more in-depth information on the items, researchers asked for explanation of the answers.

The sample for this second study consisted of 27 seniors living in a home for the elderly in Moerkapelle (mean age 86 years; range 76-97), and 23 seniors living in a home for the elderly in Brielle (mean age 85 years; range 66-93), both in the Netherlands. The questionnaires were administered in eight sessions, each comprising groups of five or six respondents, supervised by two researchers. Being physically unable to join group sessions, ten participants completed the questionnaire individually in their private room, under supervision of one researcher. The duration of the board game was 60-80 minutes. Staff members, who knew the participants well, composed the groups in order to make participants feel comfortable in the group. Upon request, the researchers helped participants by putting the selected cards in the card-tray.

RESULTS

The frequencies and mean scores are presented in Table 1 and Table 2. The two negative alternatives are taken together, as well as the two positive alternatives. Chi Square analysis of study two resulted in no significant differences regarding the atmospheric experience between homes and between groups. One significant effect was found between one group and the seniors that individually completed the questionnaire at their room (F (1,13)=12,9, p<.01). Therefore the scores on the atmospheric experience of both homes were taken together in study two.

In both studies overall participants' evaluation rates of factors related to atmospheric experience were relatively high. The lowest average score was 3.2 in study one and 3.3 in study two. In general, the participants rated the ambience and design positively. 'I like the large windows', 'the dining-room is very cosy', 'I like the plants' were remarks participants made. Participants are also content about the nursing staff. Participants mentioned that 'the staff is always polite' and 'they take their time to talk to me'. Relatively low scores were obtained for taste and smell of the food, as well as the dining-room (smell and sound). Participants made comments like 'the taste is not good', 'the food does not taste fresh', 'the soup is too thick'. Also the smell and sound of the dining-room performed relatively low. People mentioned 'I would like to hear some background music' and 'The dining-room has a musty smell'. Participants in both homes (study two) also complained that they have to choose the menu three weeks in advance. However, this did not show in their answers on the question about the way of choosing the meal.

Table 1: Frequencies and average score for experience components measured in study one (N=23; 5-point scale, ranging from 😣=1 to 😄=5)

	Aspect	😣😣	😐	😄😄	mean
Food	Menu options	2	1	20	3,9
	Choice of meal	0	4	19	3,8
	Visual presentation	0	1	22	4,2
	Smell	3	3	17	3,6
	Taste	7	1	15	3,4
	Temperature	1	2	20	3,9
Ambience	Color	2	6	15	3,6
	Light	0	2	21	4,0
	Smell	0	18	5	3,2
	Sound	5	1	18	3,6
Design	Atmosphere	0	5	18	3,9
	Decoration	2	1	20	3,8
Staff	Contact with staff	0	2	21	4,3

Table 2: Frequencies and average score for experience components measured in study two (N=47-50, 5-point scale, ranging from 😣=1 to 😄=5).
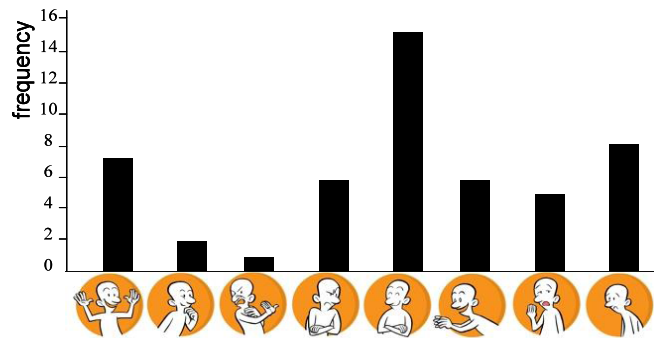
	Aspect	😣😣	😐	😄😄	mean
Food	Menu options	5	10	35	3,8
	Choice of meal	5	4	41	4,0
	Visual presentation	5	11	34	3,8
	Smell	10	20	20	3,4
	Taste	15	11	24	3,3
	Temperature	5	2	43	4,1
Ambience	Color	4	10	33	3,9
	Light	6	10	31	3,7
	Smell	5	15	27	3,6
	Sound	11	17	19	3,3
Design	Atmosphere	10	8	29	3,6
	Furniture	6	5	36	3,9
	Decoration	3	9	35	3,9
Staff	Contact with staff	2	3	45	4,5

Results of the analysis of the reliability of the questionnaire suggest an improvement of the instrument in study two. The internal consistency of the factors in study two (food $\alpha = 0,73$, ambience $\alpha = 0,77$, design $\alpha = 0,74$) was better than the internal consistency in study one (food $\alpha = 0,69$, ambience $\alpha = 0,50$ design $\alpha = 0,48$).

Figure 3: Results emotions food (joy, fascination, disgust, dissatisfaction, satisfaction, desire, boredom, and sadness) in study two.

Figure 4: Results emotions dining-room (joy, fascination, disgust, dissatisfaction, satisfaction, desire, boredom, and sadness) study two.

Regarding the measurement of the emotions, the participants experienced difficulty in selecting their emotions associated with meals and the dining-room. However, all participants eventually chose a picture expressing an emotion and every emotion was chosen at least once. The results are shown in Figure 3 and 4. Results show no significant differences between the homes and between the aspects. So, either the emotions associated by the food are the same as the emotions associated by the dining-room, or the participants could not express the difference between the emotional state for both aspects. The emotions participants associated with the food, were mostly positive: joy, satisfaction and desire (the first, fifth and sixth emotion in Table 3). The emotions participants associated with the dining-room, were more mixed: besides joy and satisfaction, also sadness and to a lesser extent dissatisfaction and desire was chosen.

CONCLUSION

The aim of this study was to develop an instrument measuring atmospheric experience and emotions, to be used for the evaluation of culinary concepts applied in homes for the elderly. Because of the focus on the development of the instrument the conclusions will be on the instrument rather than the outcomes.

Firstly, participants indicated they liked the participation in this study, because of the playful design of the instrument. This is an interesting method for completing a questionnaire, making it fun to participate and probably increasing the response rate.

Secondly, answering the questionnaire under the supervision of the researchers proved to be successful compared to study one, which showed that a self-administered survey is less suitable for the target group of elderly. Some participants needed extra explanation of the questions. Additionally, the improved mode of delivery allows participants to tell their story, adding valuable information to a survey with primarily closed-ended questions. A disadvantage is that the researchers may influence the answers. In the present study the two researchers were both present at each group. A suggestion for future research is to test the administration in groups with different researchers to find out the influence of the researcher on the outcomes. As subjects participated in groups, participants can also influence each other. However, as results showed no differences between the groups, the influence seems limited.

Thirdly, the visual method of measuring emotions turned out to be better compared to the verbal questions that were asked in study one. Although participants indicated that the interpretation of pictures was difficult, participants eventually selected an emotion and varied in the emotion they selected. It remains a challenge to measure emotions, particularly of elderly. Another possibility to measure emotions is the use of an animation tool, which expresses the emotions more clearly. This tool expresses emotions by facial expression and movement accompanied by sound (Desmet, 2010). The question remains whether it is possible to rate past feelings. How accurate are these memories of emotions? Real time measurement of emotions is preferred. However, this is difficult to integrate in a quantitative instrument.

DISCUSSION AND RECOMMENDATIONS

The result of these two studies is a first step towards an easily applicable instrument for evaluating culinary concepts experienced by elderly. The instrument combines experience of service (staff, menu choice), environment (ambience and design), as well as emotions and products (food). However, the sample sizes in

these two studies were relatively small. Further research is needed to validate the instrument. Further research is planned to use the instrument to measure the effects after implementation of a culinary concept. Results will show whether the instrument is suitable to determine differences in people's experience before and after implementation. Besides measurement on soft aspects of atmospheric experience and emotions, objective measurements on physical health, like use of medicines, will be also gathered. If the instrument turns out to be effective, it will be interesting to test the instrument also in other fields of hospitality business.

A further suggestion is not to limit the dimension of interaction with others to the staff, but also include interaction with other dining guests. Furthermore, the loyalty (CEO-model) or meaning (Guest Journey Model) has so far not been part of the instrument. A number of questions on this dimension will make the instrument an even better operationalization of the models.

ACKNOWLEDGEMENTS

REFERENCES

Desmet, P. (2010). The Product Emotion Measurement Instrument (PrEmo). http://static.studiolab.io.tudelft.nl/gems/desmet/PrEmo.pdf [Accessed the 11th of June, 2010].

Desmet, P.M.A., Guiza Caicedo, D., & Van Hout, M. (2009). *Differentiating Emotional Hotel Experiences.* In: T. Kokko (Ed.), Proceedings of the International Hospitality & Tourism Educators EuroCHRIE conference. Helsinki, 22-24 October 2009.

Feldman Barrett, L., Mesquita, B., Ochsner, K.N. & Gross, J.J. (2007). The Experience of Emotion. *Annual Review of Psychology, 58*: 373-403. doi: 10.1146/annurev.psych.58.110405.085709.

McIntyre, C. (2008). Museum foodservice offers- experience design dimensions. *Journal of Foodservice,* 19 (3): 177-188.

Nijs, D. & Peters, F. (2002). *Imagineering: Het creëren van belevingswerelden*. Amsterdam: Boom.

Pine. B. J. & Gilmore. J.H. (1999). *The experience economy: Work is theatre & every business a stage*. Boston, Massachusetts: Havard Business School Press.

Rolls, B.J. (1999). Do Chemosensory Changes Influence Food Intake in the Elderly? *Physiology and Behavior*, 66 (2): 193-197.

Slåtten, T. & Mehmetoglu, M. (2009). Atmospheric Experiences that emotionally touch customers. A Case Study from a Winterpark. *Managing Service Quality,* 19: 721-746.

LEM-characters (2009). *LEM-characters by SusaGroup*, http://www.lem-emotions.com/ [Ordered 1st of April 2010].

Thijssen, J.P.T., Groen, B.H. & Pijls, R. (2010). *Exploratory Study on Measuring Patients' Experience. Consequences for Hospitality, Services and Facilities.* Paper presented at EFMC, Madrid, 1-2 June 2009.

Thijssen, J.P.T., Peelen, E. & Bink, S. (2006). Share of heart versus share of mind: The Sportlife Case of the Arctic Games. *Research Paper, European Centre for the Experience Economy, Amsterdam/Bilthoven.*

Voss, C. and Zomerdijk, L. (2007), "Innovation of experiential services: An empirical view*". DTI, Occasional Paper, no.9, Innovations in Services,* 97-134. www.berr.gov.uk/files/file39965.pdf [accessed 10 may 2010].

World Health Organization (2005). Constitution of the World Health Organisation. http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf [accesed 9 June 2010].