

# **(SP) AN ENVIRONMENTAL PSYCHOLOGY, CLASSIFICATION OF SPORTING EVENT ATMOSPHERE AND A METHODOLOGY TO DEVELOP AND VALIDATE AN ATMOSPHERE MEASUREMENT MODEL**

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## **Introduction**

Due to remarkable increases in attendance figures of live sporting events in recent years these events have become a very high-turnover leisure market. The event atmosphere is regarded by the sport economic literature as one of the pivotal value creating elements of live sport consumption. Both theoretical considerations as well as empirical results show that an emotionally appealing event atmosphere belongs to sport spectators' most important motives of attendance (Beyer, 2006; Pfaff, 2002; Riedmüller, 2003; Thörner, 2001; Wochnowski, 1996). A theoretical discussion about the term of atmosphere and an adequate operationalisation of this probably multidimensional construct in the context of sporting events is yet only rudimentary existent in the literature. Thus, it is so far unclear what exactly is meant when people talk about event atmosphere, which dimensions the construct consists of and which consequences come along with atmospheric effects. More specific knowledge of the phenomenon of sporting event atmosphere is not at last of practical relevance because event managers are provided with information on how to manipulate the events' atmosphere under consideration of the spectators' preferences, which can contribute to an effective management and improvement of the sport service quality.

The research project presented here firstly aims at transferring an emotion-oriented environmental psychology approach to the environment "sports stadium" and to develop a theoretical framework for scientific research on the concept of sporting event atmosphere and its effects on emotional states as well as sport spectators' behaviour. Hereupon, the focus is set on the construct of atmosphere as a central element in the framework and a methodology for the development and validation of an atmosphere measurement model is presented.

## **An environmental psychology framework**

Environmental psychology is concerned with the question if the environment (e.g. buildings, landscapes) has an influence on the behaviour of the people living in that environment and how that environment can be designed under consideration of human behaviour and preferences. Emotion-oriented approaches of environmental psychology reveal how emotions and behavioural reactions can be initiated by environmental stimuli. The core of that research branch is the environmental psychology behavioural model by Mehrabian Russell (1974). In this model, the entire volume of environmental stimuli of a specific environment (stimulus variables) is indicated by the complexity-reducing concept of the information rate. The information rate is higher and the more emotionally arousing, the more stimuli exist and the stronger they are. Three intervening variables because either approach or avoidance behaviour (reaction variables): pleasure, arousal and dominance (Mehrabian, & Russell, 1974). Empirical findings in the field of

consumer research confirm these relations for the “environment” retail store (Donovan et al., 1994; Donovan & Rossiter, 1982; Tai & Fung, 1997).

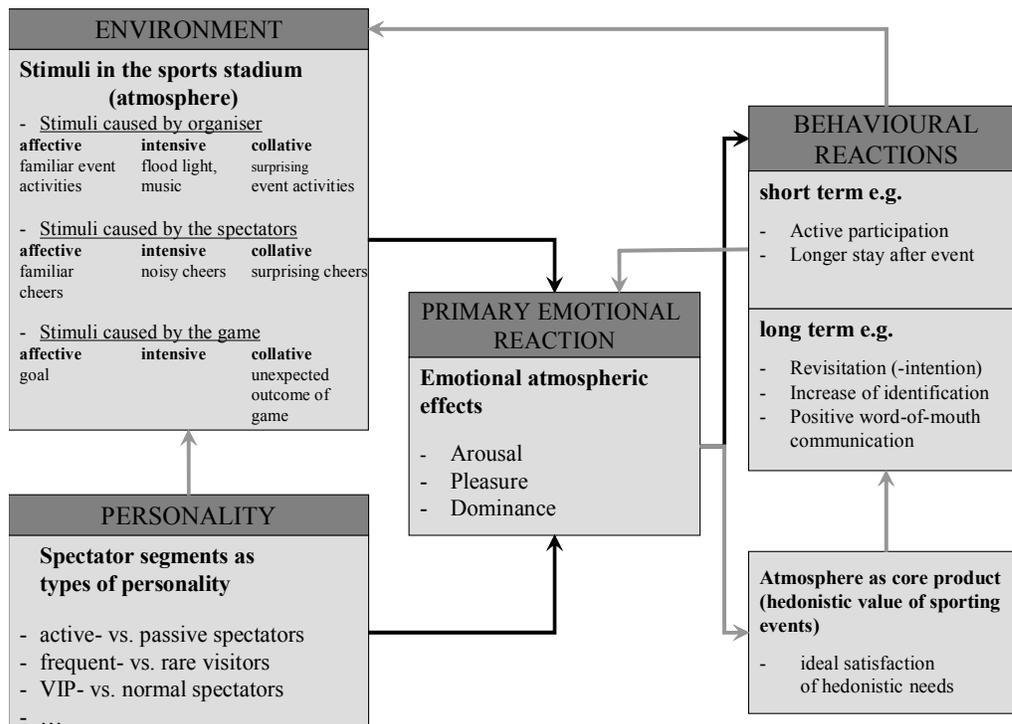
Looking at sports stadiums as the environment of sport spectators, the event atmosphere can be defined as the entirety of stimuli affecting the spectators. The sum of stimuli consists of stimuli generated by the organiser, the spectators and the game. Three different kinds of stimuli affect the spectators: affective, intensive and collative stimuli. Depending on personal characteristics, the stimuli cause specific emotional responses. In the context of sporting events, these emotional responses can be seen as both the core product, which satisfies hedonistic needs as well as catalyst for further short- and long-term atmosphere-induced spectator behaviour; for example, active participation, repurchase of tickets, positive word-of-mouth communication. Based on theoretical considerations further causal connexions beside those postulated in Mehrabian and Russell’s model can be assumed for the context of a sporting event, which are displayed by grey arrows in the attached model. In addition, empirical findings in consumer research, disprove the unidirectional character of Mehrabian and Russell’s original model (Tai & Fung, 1997). The entirety of stimuli is, for instance, probably also influenced by the personality of the spectators and their behavioural reactions. Furthermore, behavioural reactions are not only a result of specific emotional states, but can also initiate or intensify these (Tai & Fung, 1997).

The environmental psychology behavioural model exhibits limitations, especially the operationalisation of the information rate if the environment sports stadium is to be analysed. A consideration of the particularities and specification of all affective, collative and intensive stimuli is needed, as their effects are interdependent.

## **Methodology**

The construct atmosphere, a central element in the described framework, will now be subject to a process of conceptualisation and validation and a valid measurement model will be developed. The initial step in the study of complex theoretical constructs is a rough conceptualisation of the term being investigated. For this purpose, qualitative techniques such as literature analyses and interviews with experts in the relevant field are appropriate means (Homburg & Giering, 1996). In order to conceptualise the construct sporting event atmosphere, the research project applies the Delphi method. This method is suitable for the identification and qualification of opinions of an expert group about a diffuse and unclear issue (Häder, 2002). The Delphi survey will be conducted among the fan commissioners of all clubs in the first and second German soccer division (Bundesliga) and will consist of three interview rounds. In the first round, an open question about the components of sporting event atmosphere will generate an initial list of items. Based on these items a questionnaire for the second round will be designed and the given item evaluations of the second round will be used to adjust the list of items. This procedure will again be followed in the third round with the reassessed list of items in order to reach consensus to a large extent. Following the Delphi survey, a pre-test will be carried out for another reassessment of the item list as well as to increase the comprehensibility and uniformity of the list. The improved sample of items is the base for the development of the final questionnaire, which will be applied in the subsequent main study. Data will be collected by means of a spectator survey at a professional German soccer club. For the purpose of evaluating and optimising the measurement

model, the data collected will be subject to a quantitative analysis. Reliability and validity criteria of the first generation (explorative factor analysis, item-to-total correlation, Cronbach's alpha) and criteria of the second generation within a confirmatory factor analysis will be applied. Both the overall adaptation of the model (verified with chi-quadrat test, goodness-of-fit index, adjusted GFI etc.) and the partial structures of the model (e.g. indicator reliability, factor reliability) will be assessed. A second spectator survey and a subsequent verification of the data will finally evaluate the sample independence of the atmosphere measurement model. A valid measurement of the construct can only be assumed if the model fulfils the requirements of content-, convergent-, discriminant- and nomological validity (Homburg & Giering, 1996; Nunnally & Bernstein, 1994).



**Figure:**

Environmental psychology framework for research on sporting event atmosphere (derived from Mehrabian & Russell 1974). The basic constructs of the original model are marked in dark-grey boxes.



Causal connections of original model



Additional expected causal connections at sporting events

## Perspective

A valid atmosphere measurement model is the fundament for further research on atmospheric effects and preferences as well as associated behavioural reactions of different segments of sport spectators. Against the background of the shift from traditional sports stadiums to modern multi functional event arenas, detailed knowledge

of those connexions are essential to systematically control the sporting event atmosphere according to the demands of different stakeholders of sporting events such as spectators, media and sponsors.

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